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IMPACT OF TAXATION ON NATIONAL ENERGY POLICY

HEARING

BEFORE THE

SUBCOMMITTEE ON
ENERGY AND AGRICULTURAL TAXATION

OF THE

COMMITTEE ON FINANCE
UNITED STATES SENATE

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IMPACT OF TAXATION ON NATIONAL ENERGY POLICY

FRIDAY, JUNE 21, 1985

U.S. SENATE,
SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION,
COMMITTEE ON FINANCE,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:20 a.m. in room SD-215, Dirksen Senate Office Building, the Honorable Malcolm Wallop (chairman) presiding.

Present: Senators Wallop, Symms, Long, Matsunaga, and Bradley.

[The press release announcing the hearing, a pamphlet prepared by the Joint Committee on Taxation and the opening statement of Senator Durenberger follow:]

[Press Release—June 3, 1985]

FINANCE COMMITTEE SCHEDULES HEARING ON THE IMPACT OF TAXATION ON NATIONAL ENERGY POLICY

Senator Bob Packwood, Chairman of the Senate Committee on Finance, today announced the scheduling of two days of hearings before the Subcommittee on Energy and Agricultural Taxation on the impact that tax law has on the implementation of domestic energy policy and national security.

The Finance Committee Chairman said that the hearings will take place on Friday, June 21, 1985, and Friday, June 28, 1985. Both hearings will begin at 9:15 a.m. and will be held in Room SD-215 of the Dirksen Senate Office Building.

Senator Packwood said that Senator Malcolm Wallop (R-Wyoming), the Chairman of the Subcommittee on Energy and Agricultural Taxation, would preside at the hearings.

Senator Wallop observed: "Recent energy outlook reports, particularly the 1984 Department of Energy (DOE) Annual Energy Review, have highlighted several disturbing trends in domestic energy exploration, production and consumption as well as an increasing reliance on imported petroleum products."

"According to the DOE Annual Review," Senator Wallop continued, "America consumed 13 percent more energy than we produced in 1984 with the difference met primarily by imported energy products. This 6.5 percent rise in oil imports last year marked the first increase since 1979, and even more alarming is the possibility that as consumption increases so will our nation's reliance on imported products rather than on U.S. energy sources."

"Currently there are about one-third fewer U.S. drilling rigs working than in mid-December, and since peaking in 1970, U.S. production has dropped about 9.1 percent and reserves have fallen by almost 29 percent. The EIA Review goes on to predict that by 1990, imports could provide 40 percent of U.S. consumption and could come closer to providing almost 44% of America's energy needs if world crude oil prices fall to $25 a barrel."

"These hearings will be held," concluded Senator Wallop, "in light of these emerging trends, and to explore how and if this country should, through our tax code, plot a course toward insuring stable and secure domestic energy supplies through traditional and alternative energy forms and conservation.

TAXATION OF ENERGY AND NATURAL RESOURCES

Scheduled for Hearings

before the

SUBCOMMITTEE ON
ENERGY AND AGRICULTURAL TAXATION

of the

COMMITTEE ON FINANCE

ON JUNE 21 AND 28, 1985

Prepared By the Staff

of the

JOINT COMMITTEE ON TAXATION

INTRODUCTION

This pamphlet,[1] prepared by the staff of the Joint Committee on Taxation, provides a discussion of the taxation of energy and natural resources. The Senate Finance Subcommittee on Energy and Agricultural Taxation has scheduled public hearings on June 21 and 28, 1985, on the taxation of energy and natural resources.

The first part of the pamphlet is an overview and summary. The second part is a description of specific tax provisions and proposals relating to energy and natural resources, including present law, Administration tax reform proposal, other proposals, and analysis of issues.

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[1] This pamphlet may be cited as follows: Joint Committee on Taxation, *Taxation of Energy and Natural Resources* (JCS-21-85), June 20, 1985.

I. OVERVIEW AND SUMMARY

A. Overview

Much of the nation's energy policy is located in the Internal Revenue Code rather than in Federal outlay and regulatory programs. Tax expenditures for energy in the Code, in the form of credits and other tax preferences, are estimated to be $5.2 billion in fiscal year 1986.[2] This is comparable to the total amount of budget authority for energy programs ($5.1 billion) requested by the Administration in the fiscal year 1986 budget.

The Code contains provisions that influence both energy supply and energy conservation. The most significant of the energy supply provisions from the standpoint of tax revenue involve the deduction of expenses associated with the exploration, development, and depletion of fossil fuels (primarily oil, natural gas, and coal). These provisions were added soon after the adoption of the income tax.

Following the 1974 Arab oil embargo, and the economic disruption associated with the subsequent quadrupling of the price of imported oil, Congress enacted several tax credits in the Energy Tax Act of 1978[3] that were explicitly designed to reduce U.S. dependence on energy imports. These new energy tax credits were designed to encourage private expenditures both for energy conservation and for the production of nonconventional energy. Congress also provided for the gradual deregulation of natural gas prices in the Natural Gas Policy Act of 1978, and the Administration decontrolled petroleum prices between 1979 and 1981. As a result, domestic petroleum and natural gas prices are now at or near world market levels.

Primarily as a result of energy price increases and conservation measures, U.S. petroleum consumption dropped by 16.4 percent over the 1979-1984 period, and U.S. petroleum production (including natural gas plant liquids) increased by 2.9 percent.[4] The decline in consumption and the rise in production has reduced net imports of crude oil and refined products by 42 percent from 1979 to 1984. Over the 1979-1984 period, net petroleum imports have declined from 43.1 to 29.7 percent of domestic supply. In 1984, Organization of Petroleum Exporting Countries ("OPEC") supplied 12.8 percent, and Arab members of OPEC supplied only 5.1 percent, of U.S. petroleum demand.[5]

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[2] Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 1986-1990* (JCS-8-85), April 12, 1985.

[3] The Crude Oil Windfall Profit Tax Act of 1980 increased to 15 percent and extended through 1985 the energy investment credits for solar, wind, and geothermal equipment. The 1980 Act also added the alternative fuels production credit and the energy credits for ocean thermal, small-scale hydroelectric, and cogeneration equipment, and intercity buses. In addition, the Act provided for the expensing of injectants used in tertiary oil recovery and allowed tax-exempt industrial development bonds to be used to finance certain alternative energy facilities.

[4] U.S. Dept. of Energy, *Annual Energy Review 1984* (April 1985), p. 77.

[5] U.S. Dept. of Energy, *Monthly Energy Review: February 1985* (May 1985), p. 15.

U.S. vulnerability to petroleum supply disruptions to some extent has been reduced by the establishment of a Federal strategic petroleum reserve ("SPR"). The SPR contains 465 million barrels of oil (as of April 1985), capable of replacing 100 days of oil imports at 1984 import rates (4.66 million barrel per day). Although the decline and diversification of U.S. petroleum imports and the expansion of the SPR provide some protection against import curtailments, a national security threat remains to the extent that Western Europe and Japan continue to be dependent on Persian Gulf oil.

Over the 1976-1983 period, oil and gas reserve additions gradually caught up with production. In 1976, U.S. reserve additions were only 2.9 billion barrels compared to production of 6.7 billion barrels. By 1983, reserve additions had reached 6.4 billion barrels, slightly exceeding production. The 131-percent increase from 1979 to 1984 in the annual rate of reserve additions was primarily the result of intensified exploration and development activity. The number of oil and gas exploratory and development wells drilled increased by 65 percent, from 49,800 in 1979 to 82,000 in 1984.[6]

The Administration in 1981 proposed complete repeal of the residential and business energy credits. Congress allowed many of these energy tax credits to expire as scheduled on December 31, 1982, but continued the remaining credits through December 31, 1985. The Administration's tax reform proposal would allow all of the remaining energy tax credits to expire at the end of 1985 and would also reduce certain of the tax preferences for oil, gas, and mineral depletion. Some have criticized the Administration's tax reform proposed on the grounds that it undercuts national energy policy, while others contend that all energy tax preferences should be eliminated.

In evaluating the provisions of the Code affecting energy production and use, and proposed changes to these provisions, several important issues arise. First, should the Federal government attempt to influence the level and composition of private energy supply and demand, in view of national security considerations, or let free-market prices determine these decisions. Second, if national energy policy seeks to encourage certain energy production and conservation activities, is it more efficient to use direct outlay programs or tax provisions to influence the use of energy. Third, if present Code provisions are used to further energy policy objectives, can these current law provisions be made more efficient. Fourth, to what extent do energy-related tax provisions affect the distribution of income among individual taxpayers and between regions of the country.

B. Summary

1. Oil and Gas

Present law

Present law distinguishes three types of pre-production cost: (1) costs incurred prior to drilling; (2) purchases of equipment used to drill a well; and (3) intangible drilling costs. Under this system, lease acquisition costs and geological and geophysical costs incurred prior to drilling are recovered through the depletion deduction. Tangible drilling costs, like ordinary equipment purchases, are recovered through the depreciation deduction (and are eligible for the investment credit). Intangible drilling costs, such as labor and materials, are recovered according to special rules.

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[6] U.S. Dept. of Energy, *Monthly Energy Review: February 1985* (May 1985), p. 64.

Pre-drilling costs.—The tax Code provides different methods for recovering lease acquisition and other pre-drilling costs for independent and integrated producers (i.e., producers with refining or retailing operations). Integrated producers must use cost depletion which requires that costs be deducted at the same rate that reserves are produced. Independent producers and royalty owners may use percentage depletion (at a 15 percent rate) on up to 1000 barrels per day of oil production, or the equivalent amount of natural gas. Under this method, 15 percent of the gross income from the property may be deducted, up to 50 percent of net income from the property. Unlike cost depletion, percentage depletion deductions may continue to be claimed even after all costs have been recovered.

Tangible drilling costs.—Drilling rigs, bits, and other drilling equipment generally are treated as ordinary depreciable property in the 5-year class. Under the Accelerated Cost Recovery System ("ACRS"), property in the 5-year class is eligible for a 10-percent investment credit, and 95-percent of the purchase price may be written off over 5 years. For a company taxed at the 46-percent corporate rate, the combination of the investment credit and depreciation allowance is approximately equivalent to writing off the full cost of the property in the year of acquisition ("expensing").

Intangible drilling costs.—The rules for deducting intangible drilling costs (IDCs) also differ between independent and integrated producers. Independents may elect to expense intangible drilling costs in the year incurred. Integrated producers are allowed to expense only 80 percent of IDCs, and the remainder must be written off over 36 months.

Administration proposal

Pre-drilling costs.—The use of percentage depletion by independent producers other than for wells producing less than 10 barrels per day ("stripper" wells) would be phased out over 5 years by reducing the depletion rate by 3 percentage points per year beginning on January 1, 1986. In the case of stripper wells, percentage depletion (at the current rate of 15 percent) would continue to be available to independent producers (but not royalty owners). Predrilling costs of non-stripper wells would be recovered by cost depletion, as under current law; however, depletion deductions would be indexed to adjust for inflation.

Tangible drilling costs.—Drilling equipment would be depreciated as ordinary equipment under the proposed Capital Cost Recovery System ("CCRS"). Under CCRS, equipment costs would be depreciated somewhat faster than under a tax system based on economic depreciation (such as that contained in the original Treasury proposal[7]); however, CCRS is less generous than the current-law system (accelerated depreciation plus the investment tax credit).

Intangible drilling costs.—The Administration would not change current law, but would adjust the treatment of IDCs for purposes of the individual and corporate minimum tax.

2. Mineral Deposits, etc.

Present law

Percentage depletion.—Percentage depletion is allowed in the case of mines, wells, and other natural deposits, at rates varying from 5 to 22 percent.

Development and exploration costs.—Mining development and exploration costs generally may be expensed.

Capital gains.—Royalty income from the disposition of coal, domestic iron ore and timber is allowed capital gains treatment.

Administration proposal

Percentage depletion.—The proposal would phase-out percentage depletion for all hard minerals over a 5-year period. Cost depletion would be indexed for inflation.

Development and exploration costs.—The proposal would not change present law with respect to these costs.

Capital gains.—The proposal would phase out the special capital gains rules for coal, iron ore, and timber over a 3-year period.

3. Energy Credits

Present law

Present law provides both residential and business energy credits. There are two types of residential energy tax credits: the conservation credit and the renewable energy credit.

Residential conservation credit.—The conservation credit is equal to 15 percent of the first $2000 of expenditures on insulation, storm windows and doors, and certain other types of equipment that increase the energy efficiency of a dwelling.

Residential renewal energy credit.—The renewable energy credit is equal to 40 percent of the first $10,000 of expenditures for solar, geothermal, and wind energy property that meets certain standards.

Under present law, there are three types of business energy tax credits: the energy investment credit, the nonconventional fuels production credit, and the alcohol fuels credit.

Energy investment credit.—Depending on the category of energy property, the energy investment tax credit is 10, 11, or 15 percent of the property's cost. Currently the energy investment credit is available for six classes of property: (1) geothermal equipment (15 percent); (2) ocean thermal equipment (15 percent); (3) biomass property (10 percent); (4) solar and wind property (15 percent); (5) small-scale hydroelectric property (11 percent); and (6) intercity buses (10 percent).

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[7] Dept. of the Treasury, *Tax Reform for Fairness, Simplicity, and Economic Growth,* (November 1984).

Nonconventional fuels production credit.—The nonconventional fuels production credit is a tax credit for certain alternative fuels equal to $3 per barrel of oil (or energy equivalent), adjusted for inflation since 1979.[8] The inflation adjustment increased the credit to approximately $4.10 in 1984. The credit phases out as the price of oil rises above $23.50 per barrel in 1979 prices (about $32.10 in 1984), and is eliminated at a price of $29.50 per barrel (about $40.30 in 1984). However, the current price of oil is below the phase-out range, so the full credit will be available in 1985 if current market conditions persist.[9]

Alcohol fuels credit.—Certain alcohol that is derived from crops and other biomass (but not from fossil fuels) and is used or sold as a fuel is eligible for an income tax credit of up to 60 cents per gallon.[10]

The residential and business energy credits other than the alcohol and nonconventional fuels production credits are scheduled to expire after December 31, 1985. The nonconventional fuels production credit does not apply to nonconventional fuel produced from wells drilled after, or produced in a facility placed in service after, December 31, 1989. The alcohol fuels credit does not apply to the sale or use of alcohol fuel after December 31, 1992.

Administration proposal

The Administration proposal allows all energy credits other than the alcohol and nonconventional fuels production credits to expire after December 31, 1985. The nonconventional fuels production credit would be terminated for fuels produced from facilities completed after December 31, 1985. (The credit would continue for eligible fuel produced from a well drilled, or facility completed, before January 1, 1986, and sold before January 1, 1990.) The alcohol fuels credit would be terminated for alcohol fuels produced from facilities completed after December 31, 1985. (The credit would continue for qualified alcohol fuels produced from facilities completed before January 1, 1986, and sold before January 1, 1993.)

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[8] The credit is available for the following fuels: (1) oil produced from shale and tar sands; (2) gas produced from geopressured brine, Devonian shale, coal seams, and tight formations; (3) gas produced from biomass; (4) synthetic fuel produced from coal (including lignite); (5) qualifying processed wood fuels; and (6) steam from certain agricultural byproducts.

[9] As of February 1985, the average refiner acquisition cost of crude oil was $26.53 per barrel.

[10] The credit is 60 cents for alcohol that is at least 190 proof and 45 cents for alcohol that is between 150 and 190 proof. No credit is available for alcohol that is less than 150 proof.

II. DESCRIPTION OF TAX PROVISIONS AND PROPOSALS

A. Tax Provisions Relating To Oil And Gas Production

1. Intangible Drilling and Development Costs

Present Law and Background

General rules

Costs incurred by an operator to develop an oil or gas property for production are of two types: (1) intangible drilling and development costs, and (2) depreciable costs.

Under present law, intangible drilling and development costs ("IDCs") may either be currently expensed or else may be capitalized and recovered through depletion or depreciation deductions (as appropriate), at the election of the operator. In general, IDCs include expenditures by the property operator incident to and necessary for the drilling of wells and the preparation of wells for the production of oil or gas (or geothermal energy) which are neither for the purchase of tangible property nor part of the acquisition price of an interest in the property.[11] IDCs include amounts paid for labor, fuel, repairs, hauling, supplies, etc., to clear and drain the well site, make an access road, and do such survey and geological work as is necessary to prepare for actual drilling. Other IDCs are paid or accrued by the property operator for the labor, etc., necessary to construct derricks, tanks, pipelines, and other physical structures necessary to drill the wells and prepare them for production. Finally, IDCs may be paid or accrued to drill, shoot, and clean the wells. IDCs also include amounts paid or accrued by the property operator for drilling or development work done by contractors under any form of contract.

Depreciable costs are amounts paid or accrued during the development of a property to acquire tangible property ordinarily considered to have a salvage value. For example, the costs of drilling tools, pipe, cases, tubing, engines, boilers, machines, etc., fall into this category. This class of expenditures also includes amounts paid or accrued for wages, fuel, repairs, etc., in connection with equipment or facilities not incidental or necessary for the drilling of wells, such as structures to store or treat oil or natural gas. These expenditures must be capitalized and depreciated in the same manner as ordinary items of equipment, and they are treated the same for both independent and integrated producers.

Only persons holding an operating interest in a property are entitled to deduct IDCs. This includes an operating or working interest in any tract or parcel of oil- or gas-producing land either as a fee owner, or under a lease or any other form of contract granting working or operating rights. In general, the operating interest in an oil or gas property must bear the cost of developing and operating the property. The term operating interest does not include royalty interests or similar interests such as production payment rights or net profits interests.

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[11] The acquisition price for the actual oil- or gas-producing property, together with certain other costs, is recovered through depletion deductions (see discussion of depletion below).

Generally, if IDCs are not expensed, but are capitalized, they can be recovered through depletion or depreciation, as appropriate. However, if IDCs are capitalized and are paid or incurred with respect to a nonproductive well ("dry hole"), they may be deducted, at the election of the operator, as an ordinary loss in the taxable year in which the dry hole is completed. Thus, a taxpayer has the option of capitalizing IDCs for productive wells while expensing those relating to dry holes.

Twenty percent reduction for integrated producers

In the case of a corporation which is not an independent producer[12] (i.e., which is an "integrated" producer), the allowable deduction with respect to IDCs is reduced by 20 percent. The disallowed amount must be added to the basis of the property and amortized over a 36-month period, starting with the month in which the costs are paid or accrued. (These capitalized IDCs are not, however, taken into account for purposes of determining cost depletion.) Amounts paid or accrued with respect to non-productive wells (dry hole costs) remain fully deductible when the non-productive well is completed.

Recapture

If an operator elects to expense IDCs paid or accrued after 1975 and then disposes of the oil, gas, or geothermal property, a portion of the expensed IDCs must be treated as ordinary income (instead of capital gain). This portion is equal to the lower of (1) the amount of IDCs deducted since January 1, 1976 (which, but for being deducted, would have been reflected in the adjusted basis of the property), reduced by the amount (if any) by which the depletion deduction with respect to such property would have been increased if such amounts had been capitalized, or (2) the gain on the sale, exchange, or involuntary conversion of the property.

Minimum taxes

While IDCs are currently deductible (at the election of the operator), the economic value of this current deduction election is reduced by the effect of the alternative minimum tax with respect to noncorporate operators.

In the case of an individual, trust, or estate (noncorporate taxpayer), the taxpayer's alternative minimum tax is equal to 20 percent of the excess of that taxpayer's alternative minimum taxable income over a statutory exemption amount.[13] Alternative minimum taxable income is adjusted gross income, less certain deductions, plus the amount of the taxpayer's tax preference items.

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[12] This term is defined in the same manner as it is for purposes of percentage depletion (discussed below).

[13] The exemption amount is equal to $30,000 for single persons and $40,000 for married couples.

In general, IDC deductions on successful wells are a tax preference item for purposes of the alternative minimum tax to the extent they exceed the amount which would have been deductible in that year had the IDCs been capitalized and recovered over a 10-year, straight-line amortization period, but only to the extent of the excess of such deductions over the taxpayer's income for the taxable year from the oil or gas property. (Geothermal properties are treated in a similar manner.) Thus, IDCs are treated as a preference item only to the extent they are used to offset non-oil or gas income. The 10-year amortization period applies on a well by well basis, starting with the month in which production for the well begins. At the election of the operator, the cost depletion method may be substituted for the 10-year amortization schedule in determining the amount of tax preference.

IDCs paid or accrued by an individual are not treated as tax preference items if the individual elects to capitalize the IDCs and deduct them ratably over a 10-year period. In addition, in the case of any IDC expenditure in the United States by an individual which is not allocable to a limited partnership interest or certain subchapter S corporation shareholdings of such individual (e.g., individuals with operating interests, general partners, and sole proprietors), the IDCs are not treated as items of tax preference if the individual elects to deduct the IDCs over a 5-year period. If the 5-year schedule (which is the same as the ACRS 5-year recovery schedule) is chosen, the amount of the IDC is also treated as a qualified investment for purposes of the investment tax credit.

Under present law, IDCs are not treated as a preference item for purposes of the "add-on" minimum tax on corporations.

Administration Proposal

The Administration proposal would retain the present law tax treatment of IDCs. However, 8 percent of the IDCs paid or incurred on productive wells in any taxable year would constitute a tax preference item for purposes of the proposed noncorporate and corporate minimum taxes under the Administration proposal.[14] The 8-percent figure was derived by estimating the difference between (1) the value of expensing IDCs in the year paid or incurred, and (2) the present value of the deductions to which the taxpayer would have been entitled under the Capital Cost Recovery System ("CCRS") included in the Administration proposal. The 8-percent figure assumes that IDCs would be indexed for inflation and recovered over a 6-year CCRS period, the same as tangible drilling costs.

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[14] Under the Administration proposal, the minimum tax for noncorporate taxpayers would continue to be structured as an alternative tax, with a rate of 20 percent. Alternative minimum taxable income would be computed by adding to adjusted gross income the excess of preference items over $10,000 ($5,000 for married persons filing separately), and subtracting (a) allowable itemized deductions (generally, all itemized deductions with the exception of excess nonbusiness interest), (b) personal exemptions, and (c) a threshold exemption amount. The threshold exemption amount would be $15,000 for joint returns ($7,500 for married persons filing separately), $12,000 for heads of households, and $10,000 for single persons. The minimum tax for corporations would be restructured as an alternative minimum tax with a 20 percent rate, and would operate similarly to the noncorporate minimum tax. Thus, under this proposal, the minimum tax on IDCs, for a taxpayer subject to that tax, would be at the rate of 1.6 percent on its expensed IDCs (i.e., 20 percent tax rate multiplied by 8 percent IDC inclusion).

Under the Administration proposal, the amount of the tax preference for IDCs would not be reduced by the taxpayer's net income from oil and gas (or geothermal) property. Thus, expensed IDCs would be treated as a preference regardless of whether they were used to offset oil and gas income or other taxable income.

The expensing of amounts with respect to nonproductive wells (dry holes) would not be treated as a preference item under the Administration proposal.

These proposals would be effective for costs paid or incurred on or after January 1, 1986.

Other Proposals

1984 Treasury Report

Under the 1984 Treasury proposal, the option to expense IDCs would be repealed. Instead, these costs would be capitalized as depreciable or depletable costs, depending on the nature of the cost incurred. Depreciable costs would be recovered over a 12-year period under the Real Cost Recovery System ("RCRS") included in the 1984 Treasury proposal. Depletable costs would be recovered using the cost depletion method. (Depreciation incurred during the pre-production stage would also be recovered through cost depletion). Both the depreciation and cost depletion basis would be indexed for inflation.[15]

S. 1006

S. 1006 (Senators Kasten and Wallop) would retain present law.

S. 409

Under S. 409 (Senator Bradley), the option to expense IDCs would be repealed. Instead of expensing, these costs would be added to the basis for depreciation or cost depletion (as appropriate). Amounts included in the basis for cost depletion would be recovered on an accelerated method over a 10-year period, under rules similar to those applied for depreciable property generally. Immediate deductions would continue to be allowed upon the abandonment of an unproductive well.

Analysis

The taxation of oil and gas investments can be compared with other capital investments, such as investments in plant and equipment. Under the Administration proposal, pre-drilling costs (i.e., depletable costs), except in connection with stripper wells, would be deducted using indexed cost depletion. This is generally equivalent to a system of economic depreciation, such as RCRS depreciation contained in the 1984 Treasury proposal. However, under the Administration proposal, equipment and structures would be depreciated using the proposed CCRS system which is more generous than RCRS. Consequently, depletable property would be treated less favorably than most equipment and structures. Tangible drilling costs would be recovered using CCRS and would as a result receive the same treatment as depreciable equipment. However, most intangible drilling costs would be expensed, as under present law, which is a more generous recovery method than CCRS. Whether or not a particular well would be at a disadvantage relative to depreciable property in the Administration proposal thus depends on the magnitude of the well's pre-drilling costs relative to intangible drilling costs.

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[15] The repeal of IDC expensing would not affect the expensing of costs associated with nonproductive wells ("dry holes"). However, it is understood that, under the 1984 Treasury proposal, taxpayers would be allowed to expense dry hole costs only when an entire property was unproductive, rather than on a well-by-well basis as under present law.

One issue is whether investments in oil and gas should be given preferential treatment, relative to other capital investments. The Administration contends that preferential treatment of IDCs is necessary to stem the recent "substantial decline in oil drilling activity" that could reduce domestic oil production and increase vulnerability to oil import interruptions.

Evidence that drilling activity has fallen over recent years is not clear. According to Department of Energy statistics, the number of exploratory and development oil wells drilled in 1984 (41,130) was larger than the number drilled in any year since 1949.[16] The number of seismic crews and rotary rigs in use increased from 1983 to 1984; however the 1984 levels are below the records attained during the 1980-82 period. These data indicate that despite the retrenchment in manpower, the oil industry has managed to drill a record number of wells by increasing labor productivity.

The Administration proposal takes the position that providing tax incentives for drilling activity is necessary to increase U.S. energy security. In 1984, the U.S. imported 4.7 million barrels of oil per day, accounting for 29.7 percent of domestic petroleum supply. In the event of a complete curtailment of imports, the Strategic Petroleum Reserve could, at current levels, replace all imports for at most 100 days. If the SPR were depleted, domestic production would have to increase by about 40 percent to replace imports. As of 1983, proved reserves of crude oil amounted to just 8.7 years of production. If production rates were increased to replace all imports, proved reserves would be exhausted in less than 6½ years. To respond to a complete oil import curtailment, it is argued that proved reserves must be increased now in preparation because it can take several years from initial discovery of a petroleum reservoir to reach maximum production. It is argued that energy security would be increased by retaining tax preferences in current law for intangible drilling costs and percentage depletion. It is also argued that these tax incentives should be retained in order to maintain adequate levels of labor and equipment in the oil and gas industry in the event of an energy crisis.

Some have questioned this view on the grounds that drilling incentives may lead to a substitution of domestic oil for imports—arguably "draining America first". They argue that oil production is likely to rise along with reserve additions yielding little net increase in field reserves. Some argue that it may be more efficient to stockpile petroleum by filling the SPR with oil purchased in the world market at the current depressed prices. It is also argued that the decline and diversification of U.S. imports, and the collapse of the OPEC price structure, have reduced the likelihood of a sharp curtailment of oil imports.

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[16] Dept. of Energy, *Annual Energy Review 1984* (April 1985), p. 73. Excludes service well, stratigraphic tests, and core tests. Note that the oil well footage drilled in 1984 (161.7 million) was greater than in any other year except 1981.

Others argue that the object of energy policy should be complete energy independence. In this view, tax incentives for oil and gas exploration serve energy policy by increasing domestic production and replacing imports. This might also improve the merchandise trade balance since net petroleum imports accounted for almost 20 percent of all imports in 1984.[17] However, energy self-sufficiency might be achieved more efficiently by a tax on imported oil.[18] Such a tax would encourage conservation and fuel switching, as well as production, by raising the price of domestic oil.

From an accounting standpoint, part of the reason that IDCs have historically been allowed to be expensed[19] (aside from the implicit tax subsidy) is the difficulty of establishing an alternate recovery period, because the "useful life" of a well may not be known in advance and its production may occur at an uneven rate. (This is similar to the problem faced in determining a proper oil and gas depletion method.) If Congress decides to modify the present law treatment of IDCs, it may wish to establish a statutory recovery period which, if desired, contains some incentive element. Alternatively, IDCs may be merged with general depreciation provisions in order to provide similar tax incentives. Likewise, as under present law, differentiation between integrated producers and other taxpayers could be maintained. To the extent that Congress is concerned principally with domestic exploration, different rules could be provided for domestic and foreign production.

It has been argued that the expensing of costs associated with "dry holes" is consistent with general tax accounting principles, which allow deductions for ordinary business losses incurred during the year. However, this depends upon whether one defines a "loss" as an event occurring on a well-by-well, or, alternatively, a property-by-property, basis. Advocates of allowing dry hole costs to be expensed argue that whenever a well proves not to have any recoverable oil, the money spent on drilling that well has been irrecoverably lost and accordingly should be regarded as deductible. Others argue that this is inconsistent with common business practice in the oil and gas field. They assert that oil and gas operators, when beginning operations on properties which they know to contain valuable reserves, will commonly drill several wells in the knowledge that some, but not all, of them will likely prove productive. Thus, these advocates argue, the dry holes on a productive property are most accurately viewed as expenses related to an overall productive project, and accordingly cannot properly be expensed under general tax accounting rules.

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[17] Dept. of Energy, *Monthly Energy Review: February 1985* (May 1985), p. 11.

[18] The Administration's 1984 fiscal year budget contained a provision which would have imposed a $5 per barrel tax (the so-called "contingency" tax) on domestic and imported oil under certain circumstances.

[19] The option to expense IDCs has been permitted by regulations since the Revenue Act of 1918. In 1945, in response to a case casting doubt on this treatment, Congress passed a concurrent resolution which specifically approved the Treasury regulations granting the option to expense IDCs. The Internal Revenue Code of 1954 (sec. 263(c)) directs the Treasury Department to promulgate regulations allowing for the option to expense IDCs.

2. Depletion

Present Law and Background

General rules

Depletion, like depreciation, is a species of ordinary and necessary business expense. In both cases, the taxpayer is allowed a deduction in recognition of the fact that an asset—in the case of depletion, the oil or gas reserve itself—is being expended in order to produce income. Certain costs incurred prior to drilling an oil -or gas-producing property are recovered through the depletion deduction. These include costs of acquiring the lease or other interest in the property, and geological and geophysical costs (in advance of actual drilling). Depletion is available to any person having an economic interest in a producing property (including royalty interests).

Two methods of depletion are currently allowable under the Internal Revenue Code: the cost depletion method, and the percentage depletion method. Under the cost depletion method, the taxpayer deducts that portion of the adjusted basis of the property which is equal to the ratio of units sold from that property during the taxable year to the number of units remaining as of the taxable year (in general, the number of units remaining in the property at the end of the taxable year to be recovered, plus the number of units sold during the taxable year). The amount recovered under cost depletion thus may not exceed the taxpayer's basis in the property.

Under percentage depletion, 15 percent of the taxpayer's gross income from an oil -or gas-producing property is allowed as a deduction in each taxable year. The amount deducted may not exceed 50 percent of the net income from that property in any year (the "net income limitation"). Additionally, the deduction for all oil and gas properties may not exceed 65 percent of the taxpayer's overall taxable income. Because percentage depletion is computed without regard to the taxpayer's basis in a property, it may result in eventual recovery of an amount greater than that actually expended by the taxpayer to acquire or develop the property.

A taxpayer is required to determine its depletion deduction for each oil and gas property under both the percentage depletion method (if the taxpayer is entitled to use this method) and cost depletion method. If the cost depletion deduction is larger, the taxpayer must utilize that method for the taxable year in question.

Similar rules apply to geothermal deposits located in the United States, except that the 65 percent of taxable income limitation does not apply.

Limitation to independent producers, etc.

The Tax Reduction Act of 1975 repealed percentage depletion with respect to much oil and gas production. Under that Act, independent producers and royalty owners[20] (as contrasted to integrated oil companies) are allowed to take percentage depletion with respect to up to 1,000 barrels of average daily production of domestic crude oil or an equivalent amount of domestic natural gas.[21] For producers of both oil and natural gas, this limitation applies on a combined basis.

For purposes of percentage depletion, an independent producer is any producer who is not a "retailer" or "refiner." A retailer is any person who directly, or through a related person, sells oil or natural gas or any product derived therefrom, (1) through any retail outlet operated by the taxpayer or related person, or (2) to any person obligated to market or distribute such oil or natural gas (or product derived therefrom) under the name of the taxpayer or the related person. In determining whether or not a person is a retailer, bulk sales to commercial or industrial users, and bulk sales of aviation fuel to the Department of Defense, are excluded. Further, a person is not a retailer within the meaning of this provision if the combined gross receipts of that person and all related persons from the retail sale of oil natural gas, or any product derived therefrom, do not exceed $5 million for the taxable year.

A refiner is any person who directly or through a related person engages in the refining of crude oil, but only if such taxpayer or related person has a refiner run in excess of 50,000 barrels per day on any day during the taxable year.

In addition to the independent producers exception, certain sales of natural gas under a fixed contract in effect on February 1, 1975, and certain natural gas from geopressurized brine,[22] are eligible for percentage depletion, at rates of 22 percent and 10 percent respectively. These exceptions apply without regard to the 1,000 barrel per day limitation and regardless of whether the producer is an independent producer or an integrated oil company.

To prevent proliferation of the independent producer exception, all production owned by businesses under common control and members of the same family must be aggregated. Each group is then treated as one producer for application of the 1,000-barrel amount. Further, if an interest in a proven oil or gas property is transferred after 1974 (subject to certain exceptions), the production from such interest does not qualify for percentage depletion. The exceptions to this rule include transfers at death, certain transfers to controlled corporations, and transfers between controlled corporations or other business entities.

Minimum taxes

The excess of percentage depletion over the taxpayer's adjusted basis for each oil or gas property,[23] for any taxable year, is treated

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[20] Percentage depletion is available to lease bonuses and advance royalty payments. *Commissioner v. Engle*, 464 U.S. 206 (1984). See also I.R. Ann 84-59, IRB 1984-23 (June 4, 1984).

[21] As originally enacted, the depletable oil quantity was 2,000 barrels of average daily production. This was gradually to be phased down to 1,000 barrels for 1980 and thereafter. The 1975 Act also phased down the percentage depletion rate from 22 percent in 1975 to 15 percent in 1984 and thereafter.

[22] This exception is limited to wells the drilling of which began between September 30, 1978, and January 1, 1984.

[23] In general, the term "property", for depletion purposes, means each separate interest owned by the taxpayer in each separate tract or parcel of land. In the case of oil and gas wells

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as a preference item for purposes of the noncorporate (i.e., individual) alternative minimum tax and the corporate "add-on" minimum tax under present law.

Administration Proposal

General rules

The Administration proposal would generally phase out percentage depletion for oil and gas properties over a 5-year period, beginning on January 1, 1986. This would be accomplished by reducing the percentage depletion rate by 3 percentage points for each of calendar years 1986 through 1990. Taxpayers for whom percentage depletion was repealed would be required to use cost depletion, the basis for which would now be indexed for inflation.

Under the Administration proposal, percentage depletion would continue to be available for so-called "stripper" wells (i.e., wells producing less than 10 barrels per day) owned by independent producers. The proposal specifies that this exception would not apply to royalty owners.

The phase-out of percentage depletion would be effective for production beginning on or after January 1, 1986.

Minimum taxes

For depletable property placed in service on or after January 1, 1986, the Administration proposal would include as a preference item, for purposes of the proposed noncorporate and corporate alternative minimum taxes, the excess of percentage depletion over the amount which would have been deductible had the taxpayer capitalized its costs and recovered them through cost depletion. For property placed in service before 1986, the amount of the preference would be the excess of the depletion deduction over the adjusted basis of the property (as under the present law noncorporate minimum tax).

Other Proposals

1984 Treasury Report

The 1984 Treasury proposal would repeal percentage depletion for all oil and gas properties, effective for production on or after January 1, 1986. The basis for cost depletion would be indexed for inflation.

S. 1006

S. 1006 (Senators Kasten and Wallop) would retain present law.

S. 409

Under S. 409 (Senator Bradley), percentage depletion would be repealed for all oil and gas properties from which production begins after December 31, 1986. Depletable expenses would be recovered over a 10-year period, using rules similar to those applied

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and geothermal deposits, all of a taxpayer's operating interests in each separate tract or parcel of land are generally treated as one property, subject to an election to separate certain interests in the same tract or parcel.

for depreciable property generally. These rules would replace the present law cost depletion system (which is based on the annual ratio of units sold to remaining production units), as well as the percentage depletion method.

Analysis

Under the Administration proposal, pre-drilling (i.e., depletable) costs, except in connection with stripper wells, would be deducted using indexed cost depletion. This is generally equivalent to a system of economic depreciation such RCRS contained in the 1984 Treasury proposal. However, under the Administration proposal, equipment and structures would be depreciated using CCRS which is more generous than RCRS. Consequently, depletable costs would be treated less favorably than most equipment and structures. However, indexed cost depletion would be more generous, during periods of inflation, than the cost depletion in current law.

The Administration proposal retains percentage depletion for stripper wells. The proposal states that repeal of this tax preference could lead to early abandonment of these wells, reduced oil production, and a consequent increase in U.S. vulnerability. Others argue that energy security would be better served by leaving this oil in the ground so that it would be available for production, at a profit to the owner, in the event prices rise due to a supply disruption. However, in circumstances where State law requires that an abandoned well be capped, the cost of reopening might be prohibitive.

The phasing out, over 5 years, of the percentage depletion allowance for independent producers (other than for stripper wells) raises an energy policy issue. A gradual tax increase of this kind may create an incentive for independent producers to accelerate production over the next 5 years in order to obtain the benefits of percentage depletion. This could decrease imports over the next 5 years, but increase import dependence in the future. Rapid production also may decrease the total amount of recoverable oil in a reserve. As a result, accelerated depletion of existing oil reserves may not further the objectives of energy policy. If Congress decides to reduce the current allowance for percentage depletion, a shorter phase-out period might mitigate these potentially adverse effects.

Cost recovery for the oil and gas (or mining) industries is especially complex because the amount and accessibility of those substances, and the rate of production, vary widely between different properties. Cost depletion attempts to resolve these problems by estimating the total amount of each individual reserve and allowing annual cost recovery in proportion to that percentage of the reserve which is extracted in any year. If the estimate of the total reserve is accurate, this system may be superior (in a pure economic sense) to ordinary depreciation methods, which assign assets to prearranged categories that may not match the actual rate of decline of an asset's value.

Under percentage depletion, producers are allowed a deduction for a set percentage of gross income from a given property in each year (15 percent, in the case of independent oil and gas producers and royalty owners). Under present law, this allowance may reduce the net (i.e, taxable) income from a property by up to 50 percent in each year. Although nominally a form of cost recovery, percentage depletion has come to be seen as an implicit tax subsidy to the oil and gas industry, in order to encourage production, because the total deductions with respect to a property may substantially exceed the actual costs invested in the property.[24] Since the Tax Reduction Act of 1975, this incentive has been limited to specified amounts of production by independent producers and royalty owners.

Advocates of retaining percentage depletion argue that it serves to encourage domestic oil and gas production. These arguments are similar to those made in connection with the treatment of intangible drilling costs.[25] Opponents argue that percentage depletion is an ineffective subsidy. In contrast to intangible drilling costs, percentage depletion is based on production from existing wells, and may thus be less significant in encouraging the development of new properties. It has also been noted that the 50 percent of net income limitation reduces the subsidy for marginally profitable wells, which are more likely to be affected by a subsidy.[26]

The Administration proposal would limit percentage depletion to "stripper" wells only (i.e., wells producing less than 10 barrels per day). This is essentially a continuation of the process begun in 1975, of limiting percentage depletion to a progressively smaller number of properties which are deemed to require the most subsidy. If Congress decides to modify existing law, it may wish to limit percentage depletion to a differently defined group, or else to eliminate it altogether (as in the 1984 Treasury proposal). Alternatively, Congress may wish to replace percentage depletion with a new recovery system, more favorable than cost depletion, for all producing properties. Such a system could be designed to integrate depletion into a general cost recovery system in order to provide the same treatment of oil and gas investments as investments in other capital equipment, or it could be structured so as to provide a higher degree of incentive for oil and gas production. Depending upon the methods adopted, it may be appropriate to integrate the treatment of some or all IDCs (and perhaps tertiary injectants) into such a new system.

3. Tertiary Injectants

Present Law and Background

Under present law, the Internal Revenue Code, expenditures for tertiary injectants used in tertiary recovery methods for oil and gas production may be deducted in the year of injection (i.e., such amounts may be expensed, rather than capitalized). Tertiary recovery methods are various chemical, fluid, or gaseous recovery techniques (including miscible fluid displacement, steam drive injection, and augmented water flooding) specified in the Crude Oil Windfall Profit Tax Act of 1980 or under subsequent Treasury regulations. Expensing does not apply to crude oil or natural gas injectants which are recoverable from the reservoir. The rule regarding tertiary injectants also does not apply to cost which are subject to an election to be treated as intangible drilling costs.

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[24] Percentage depletion was originally enacted in 1926 as a replacement for recovery based on "discovery values" of oil and gas properties, the determination of which had resulted in substantial litigation. The original statutory rate of 27.5 percent was reduced to 22 percent by the Tax Reform Act of 1969 and subsequently repealed for integrated producers and phased down for others to 15 percent (for 1984 and thereafter) by the Tax Reduction Act of 1975. The 50 percent "net income limitation" dates from the industry-wide recession of the 1920s, during which depletion deductions (which were based on pre-recession values) frequently exceeded the income from oil and gas properties. The preference nature of percentage depletion is formally recognized in the individual and corporate minimum tax.

[25] An analysis of issues relating to IDCs is included in the previous section.

[26] See Administration Proposal, p. 229.

Amounts which may be expensed under the tertiary injectants rule are subject to recapture upon a sale or other disposition of the property under sections 1245 and 1250 of the Code.

Administration Proposal

The Administration proposal would retain the present law treatment of qualified tertiary injectant expenses.

Other Proposals

1984 Treasury Report

The 1984 Treasury proposal would repeal the deduction for qualified tertiary injectant expenses, effective January 1, 1986. In place of current deductions, these costs would be added to the depletable basis of the property and recovered through cost depletion. Waterflooding and similar pressure maintenance techniques, which enhance production for a period of less than one year, could continue to be expensed.

S. 1006

S. 1006 (Senators Kasten and Wallop) would retain present law.

S. 409

S. 409 (Senator Bradley) would allow 50 percent of qualified tertiary injectant expenses to be deducted in the year of injection, and 50 percent in the succeeding taxable year.

Analysis

The tax treatment of tertiary injectant expenses raises similar issues to that of intangible drilling costs (discussed above). Tertiary injectants also suggest issues of (1) which enhanced recovery techniques (if any) should be singled out for advantageous tax treatment, and (2) what constitutes "normal" tax treatment for enhanced recovery procedures, which may increase production for unpredictable periods, or not at all. (This latter issue resulted in significant confusion prior to 1980, when Congress legislatively approved expensing.) If Congress decides to modify the present law treatment of tertiary injectant expenses, it may attempt to resolve these issues by adopting a new statutory recovery period (as in the Bradley-Gephardt bills), by adding the expenses to the basis for cost depletion (as in the 1984 Treasury proposal), or by integrating the treatment of tertiary injectant expenses into a new, broader recovery system.

4. Crude Oil Windfall Profit Tax

Present Law

Present law imposes an excise tax on the windfall profit element of the price of domestically produced crude oil when it is removed from the premises on which it was produced. Generally, the windfall profit element is the excess of the sale price over the sum of its an adjusted base price plus the applicable State severance tax adjustment. The windfall profit element may not exceed 90 percent of net income attributable to a barrel of crude oil.

The tax rates applicable to taxable crude oil are as follows:

Tier	Tax rate
Tier one oil (oil not in tier 2 or tier 3)	70 percent: 50 percent for independent producers.
Tier two oil (stripper oil, Petroleum Reserve oil)	60 percent: 30 percent for independent producers.
Tier three oil:	
Newly discovered oil.	22.5 percent for 1985–1987, 20 percent for 1988, and 15 percent for 1989 and thereafter.
Heavy oil and incremental tertiary oil.	30 percent.

Crude oil from a qualified governmental interest or a qualified charitable interest, certain front-end oil, certain Indian oil, certain Alaskan oil, certain independent producer stripper well oil, and, in the case of qualified royalty owners, up to three barrels per day of royalty production, are exempt from the tax.

The windfall profit tax is scheduled to phase out over a 33-month period, beginning after December 31, 1987, if the cumulative revenue raised by the tax reach $227.3 billion, but in any event no later than January 1991.

Administration Proposal

The Administration proposal would not affect the crude oil windfall profit tax.

Other Proposal

The 1984 Treasury Report proposed beginning the scheduled phase-out of the windfall profit tax on January 1, 1988.

Analysis

The windfall profit tax was enacted in 1980 in response to the perceived "windfall" accruing to oil producers as a result of the decontrol of domestic oil prices. As oil prices have stagnated and even declined in the 1980s, the tax has come to be seen less as a tax on excess profits, and more as an ordinary excise tax. Because the tax is based on sale price, declining prices have also caused receipts from the tax to be substantially lower than expected.

The 1984 Treasury proposal would accelerate the scheduled expiration of the windfall profit tax in connection with the proposed repeal of existing tax preferences benefitting the oil and gas industry (i.e., intangible drilling costs and percentage depletion). With the repeal of these preferences, it was thought that a neutral "playing field" required repeal of the windfall profit tax, as well.

B. Tax Provisions Relating to Mineral Deposits, etc.

1. Expensing of Hard Mineral Exploration And Development Costs

Present Law and Background

Under present law, taxpayers may elect to expense (i.e., currently deduct) exploration costs associated with mines and other hard mineral deposits (sec. 617). Additionally, once the existence of commercially marketable ores is established, the taxpayer may expense development costs associated with the preparation of the mine for production (sec. 616).

Mining exploration costs are expenditures for the purpose of ascertaining the existence, location, extent or quality of any deposit of ore or other depletable mineral, which are paid or incurred by the taxpayer prior to the development state of the mine or deposit. Expensed mining exploration costs (but not development costs) reduce the depletion deductions for the mine concerned (alternatively, these costs may be "recaptured" in income once the mine reaches the producing stage). Exploration costs are also subject to recapture if the property is disposed of by a taxpayer after expensing these amounts (secs. 1245 and 1250). Foreign exploration costs cannot be expensed after the taxpayer has total foreign and domestic exploration costs of $400,000.

Development costs include expenses incurred for the development of a mine or other natural deposit, after the existence of ores in commercially marketable quantities has been determined. These costs generally include costs for construction of shafts and tunnels and, in some cases, drilling and testing to obtain additional information for mining operations.

In the case of a corporation, 20 percent of mining exploration and development costs may not be expensed, but must instead be capitalized using the schedule for 5-year ACRS property. For mines located in the United States, expenses recovered under ACRS also qualify for an investment tax credit. The expensing of mining exploration and development costs is further treated as a preference item for purposes of the noncorporate alternative minimum tax, to the extent that such expensing exceeds the deduction which would have been allowable if the costs had been amortized over a 10-year period.

Administration Proposal

The Administration proposal would retain the present law treatment of mining exploration and development costs, effective January 1, 1986. The expensing of such costs (in excess of the deduction allowable under a 10-year amortization schedule) would be treated as a preference item under the proposed corporate and noncorporate alternative minimum taxes.

Other Proposals

1984 Treasury Report

The 1984 Treasury proposal would repeal the option to expense hard mineral exploration and development costs. Instead of expensing, these costs would be capitalized and recovered through cost depletion, with the depletable basis being indexed for inflation. Capitalizable costs would be determined using the general cost accounting rates contained in the Treasury proposal.

S. 1006

S. 1006 (Senators Kasten and Wallop) would retain present law.

S. 409

S. 409 (Senator Bradley) would also repeal the option to expense hard mineral exploration and development costs. In place of expensing, costs relating to depletable mineral property would be recovered under the general cost recovery system contained in the proposal. Recovery periods would be determined based on the anticipated productive life of the property.[27] The proposal would not affect the current deduction of losses sustained by reason of abandonment of a nonproductive mine or other deposit.

Analysis

The expensing of mining exploration and development costs raises issues which parallel those concerning intangible drilling and development costs (IDCs) for oil and gas wells (discussed in Part II. A. 1. above). As in the case of IDCs, general accounting principles suggest that these amounts be recovered over a multiyear period, as income is generated by the property. However, immediate deductions are arguably necessary to encourage production of the minerals in question, and may be no more arbitrary than any replacement recovery system. (The persuasiveness of the incentive argument depends upon the market for the particular material concerned and on the adequacy of the present strategic stockpiles for dealing with national security issues.) If Congress decides to modify the present law treatment of mining expenses, it may desire to establish new, statutory recovery periods, or else to require these costs to be recovered as part of a general depreciation or depletion system.

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[27] These recovery periods are equivalent to the proposed class lives for depreciable property generally, except that they are determined based on anticipated productive lives rather than present class lives.

2. Depletion of Hard Mineral Deposits

Present Law and Background

Taxpayers are permitted to recover the acquisition and certain related costs of mines or other mineral deposits [28] under one of two methods: the cost depletion method, or the percentage depletion method.

Under the cost depletion method, the taxpayer deducts that portion of the adjusted basis of the property which is equal to the ratio of units sold from that property during the taxable year to the number of units remaining as of that year. The amount recovered under cost depletion thus may not exceed the taxpayer's basis in the property.

Under percentage depletion, a deduction is allowed in each taxable year for a fixed statutory percentage of the taxpayer's gross income from the property. The percentages applicable to various minerals are summarized in the following table (Table 1).[29]

Table 1.—Percentage Depletion Rates For Selected Hard Minerals Under Code Section 613

Mineral	Percentage depletion rate
Antimony	*22
Asbetos	*22
Asphalt (rock)	14
Bauxite	*22
Beryllium	*22
Borax	14
Cadmium	*22
Chromite	*22
Coal	10
Cobalt	*22
Copper	*15
Feldspar	14
Garnet	14
Gold	*15
Granite	14
Graphite	*22
Gravel	5
Iron ore	*15
Lead	*22
Lignite	10
Limestone	14
Lithium	*22
Magnesite	14

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[28] The recovery of hard mineral exploration and development costs is discussed in the previous section.

[29] The complete list of percentage depletion rates is included in section 613(b) of the Code. Generally, percentage depletion is allowed for all minerals. However, it is not allowed in the case of soil, dirt, turf, water, or mosses, or in the case of minerals from sea water, the air, or similar inexhaustible sources.

Table 1.—Percentage Depletion Rates For Selected Hard Minerals Under Code Section 613—Continued

Mineral	Percentage depletion rate
Manganese	*22
Marble	14
Mercury	*22
Mica	*22
Mollusk shells	14
Molybdenum	*22
Nickel	*22
Oil shale	15
Peat	5
Phosphate rock	14
Platinum	*22
Potash	14
Pumice	5
Quartz (radio grade)	*22
Quartzite	14
Sand	5
Shale	5
Silver	*15
Slate	14
Soapstone	14
Sodium Chloride	10
Stone	5
Stone (ornamental)	14
Sulphur	22
Thorium	*22
Tin	*22
Titanium	*22
Tungsten	*22
Uranium	22
Vanadium	*22
Zinc	*22
Zircon	*22

*A 14-percent rate applies to these minerals if mined outside the United States.

The amount deducted for any mineral may not exceed 50 percent of the net income from a particular property in any year (the "net income limitation"). Because percentage depletion is computed without regard to the taxpayer's basis in the property, it may result in eventual recovery of an amount greater than that actually expended by the taxpayer to acquire the property.

In general, a taxpayer is required to determine its depletion deduction under both the percentage and cost depletion methods. If the cost depletion deduction is larger, the taxpayer must utilize that method for the taxable year in question.

In the case of a corporation, the amount of the percentage depletion for coal (including lignite) and iron ore, to the extent that such deduction exceeds the adjusted basis of the property, is reduced by 15 percent. Percentage depletion of all materials, to the extent it exceeds adjusted basis, is also treated as a preference item for purposes of the noncorporate (i.e., individual) and corporate minimum taxes.[30]

Administration Proposal

The Administration proposal would phase out percentage depletion for all minerals[31] over a 5-year period, beginning January 1, 1986. This would be accomplished by reducing the applicable percentage depletion rate for any mineral by 20 percent in each of calendar years 1986 through 1990. Mineral deposits would continue to qualify for cost depletion, with the depletable basis now to be indexed for inflation.

This phase out of percentage depletion would be effective for production beginning on or after January 1, 1986.

Under the Administration proposal, for depletable property placed in service on or after January 1, 1986, the excess of percentage over cost depletion in any taxable year would be treated as a preference item for purposes of the proposed noncorporate and corporate alternative minimum taxes. For property placed in service before 1986, the amount of the preference would be the excess of percentage depletion over the adjusted basis of the property (as under the present law noncorporate minimum tax).

Other Proposals

1984 Treasury Report

The 1984 Treasury proposal would repeal percentage depletion for all minerals, effective for production on or after January 1, 1986. Cost depletion would continue to be available, with the depletable basis to be indexed for inflation.

S. 1006

S. 1006 (Senators Kasten and Wallop) would retain present law.

S. 409

S. 409 (Senator Bradley) would repeal percentage depletion for properties from which production began after December 31, 1986. Depletable costs associated with mineral deposits would be recovered under the general cost recovery system contained in the proposal, with recovery periods based on the anticipated productive life of the property. The recovery periods are equivalent to those used for other productive assets, except that they are based on anticipated productive life rather than present law class lifes. This new recovery system would replace present law cost depletion (which requires a determination of the ratio of expended to remaining production units in each taxable year), as well as percentage depletion.[32]

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[30] An adjustment is made in the case of coal and iron ore to prevent the combination of the 15 percent reduction and the minimum tax from reducing the tax benefit from the taxpayer's marginal dollar of preference more than under pre-1983 law.

[31] Percentage depletion would continue to be allowed for oil and gas "stripper" wells (see discussion of oil and gas depletion above).

Analysis

Depletion of hard mineral costs raises essentially the same issues as oil and gas depletion, discussed above.[33] While nominally a form of cost recovery, percentage depletion has come to be seen as an implicit tax subsidy for the extraction of mineral substances, the extent of which varies depending upon the depletion rate. This view is reflected in the inclusion of "excess" percentage depletion as a minimum tax preference item, and in the cutback of corporate coal and iron ore percentage depletion.

The Administration proposal calls for the repeal of percentage depletion for all hard mineral substances, over a 5-year period. If Congress agrees to modify present law, it may wish to consider preserving percentage depletion for particular substances for which a continued production subsidy is considered appropriate. Alternatively, percentage depletion could be targeted only to specified producers of some or all minerals, similarly to the present law treatment of oil and gas. (This would reduce the scope of production incentives, but arguably heighten their efficiency.) Congress may also wish to consider integrating the tax treatment of depletion and hard mineral exploration and development costs.

3. Royalty Income From Coal and Domestic Iron Ore

Present Law

Under present law, subject to certain special limits, royalties received on the disposition of coal and domestic iron ore qualify for capital gains treatment. For capital gain treatment to apply, the coal or iron ore must have been held for more than six months before mining. Capital gain treatment does not apply to income realized by an owner as a co-adventurer, partner, or principal in the mining of the coal or iron ore or to certain related party transactions. If capital gain treatment applies, the royalty owner is not entitled to percentage depletion with respect to the coal or iron ore disposed of.

Administration Proposal

The Administration proposal would repeal the capital gain treatment for coal or iron ore royalties, by phasing out the special treatment over a three-year period beginning in 1986.[34]

Analysis

The special capital gain treatment for coal and domestic iron ore royalties functions as an alternate benefit to percentage depletion, and may be more valuable in certain cases. Because the relative value of this treatment depends upon the availability of percentage depletion, and the treatment of capital gains, generally it may be appropriate to consider these items together.

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[32] These bills would also repeal a provision of existing law (sec. 621) relating to the exclusion of certain payments by the United States to explore, develop, and mine for defense purposes. It appears that this provision is obsolete.

[33] See Part II.A.2., above.

[34] Other Congressional proposals deal with capital gains generally. These proposals will be discussed in a future Joint Committee pamphlet discussing capital gains.

4. Capital Gains Rules Applicable To Timber

Present Law and Background

Royalty income received by the owner of a timber royalty interest qualifies for long-term capital gain treatment, where the timber has been held for 6 months before being cut (sec. 631(b)). Additionally, the owner of timber (or a contract right to cut timber) may elect to treat the cutting of timber as a sale or exchange qualifying for long-term capital gain treatment, although the timber is sold or used in the taxpayer's trade or business (sec. 631(a)). This provision also generally requires that the timber (or contract right) be held for 6 months prior to cutting.

Administration Proposal

The Administration proposal would phase out the special capital gain rules regarding timber over a three-year period, beginning January 1, 1986.

Analysis

The special rules regarding timber have been described as a recognition of the long period necessary to grow timber, and the historic characterization of timber as a part of real property, which it sold itself would generally be entitled to capital gains treatment. The issue is whether these factors distinguish timber income from income from the sale of ordinary farming inventories, which are treated as ordinary income.

C. Energy-Related Credits and Other Incentives

1. Residential Energy Credits

Present Law and Background

Individuals are allowed a 15-percent credit on the first $2,000 of qualifying expenditures, up to a maximum credit of $300, for installations made through 1985 of eligible insulation and other energy conservation items. Each conservation item must be capable of reducing heat loss or gain, increasing the efficiency of the heating system, or reducing fuel consumption.

Individuals also are allowed a 40-percent credit on expenditures up to $10,000, for a maximum credit of $4,000, for renewable energy source property (i.e., solar, wind and geothermal energy property). The credit for individuals for renewable energy sources applies to expenditures made through 1985.

Installations of qualified renewable energy property must be made in or on a taxpayer's principal residence. The conservation credit is available only for expenditure with respect to equipment installed in or on a principal residence in existence or substantially completed on April 19, 1977. There is a credit carryover provision that allows unused credits for both energy conservation property and renewable energy source equipment to be carried over to subsequent taxable years but not to any taxable year beginning after 1987.

As defined in the regulations, renewable energy source property includes equipment (and parts solely related to the functioning of such equipment) necessary to transmit or use energy from a geothermal deposit. A geothermal deposit is defined as a geothermal reservoir consisting of natural heat, which is from an underground source and is stored in rocks or in an aqueous liquid or vapor, having a temperature exceeding 50 degrees Celsius, which is 122 degrees Fahrenheit. The regulations also provide that equipment which serves both a geothermal function and a nongeothermal function does not qualify as geothermal energy property. However, the existence of a backup system designed for use only in the event of failure of the geothermal energy system would not be disqualifying.

Administration Proposal

The Administration proposal would allow the residential energy tax credits to expire at the end of 1985, as scheduled under present law.

Other Proposals

S. 1220

Solar energy property.—S. 1220 (Senator Hatfield and others) would extend and phase out the tax credit for residential solar renewable energy source expenditures. The credit would be phased out over a 5-year period according to the following schedule:

Taxable year	Residential energy tax credit
1986	35%
1987	30%
1988	25%
1989	20%
1990	15%
1991 and after	0%

The bill generally retains the $10,000 upper limit for qualified expenditures, but specifically limits allowable expenditures to $6,000 for solar hot water systems.

For photovoltaic cells, the energy tax credit would be kept at 40 percent in taxable years before 1991.

Wind energy property.—The wind energy credit would be extended for 3 years, from 1986 through 1988, at 35, 30 and 25 percent, respectively. This credit would expire after 1988. The credit would be allowed for wind energy expenditures up to $20,000.

Geothermal energy property.—The credit for geothermal property would be extended through 1986 at the present 40-percent rate, and would decline by 10 percentage points in each of 1987 and 1988. It would expire at the end of 1988. The bill also amends the definition of qualifying property in cases where geothermal property is used with nonrenewable energy: all equipment qualifies when geothermal energy provides 80 percent of annual energy use (measured on a Btu basis); if geothermal energy is the source of more than 50 percent but less than 80 percent, only geothermal energy equipment would qualify.

Energy conservation credit.—The conservation credit would be increased to 25 percent of expenditures of $700 or less, limited to taxpayers with AGI of $30,000 or less. For married individuals filing separate returns, AGI for these purposes would be the sum of the AGI of husband and wife. Storm doors no longer would be eligible for the credit. These credits would expire after December 31, 1988.

Carryforward of unused credits.—Residential credits that remain unused after the expiration date for the property involved may be carried forward for 2 additional years.

S. 1006, S. 409, S. 243

S. 1006 (Senators Kasten and Wallop), S. 409 (Senator Bradley), and S. 243 (Senator Roth) would allow the residential energy tax credits to expire at the end of 1985.

S. 1201

S. 1201 (Mrs. Hawkins and others) would phase out the credit for residential solar property following the same schedule as in S. 1220, and also would limit to $6,000 qualified expenditures for solar hot water use in a dwelling. In addition, a 40-percent credit would be provided for photovoltaic cells used solely to provide electricity. Performance standards would be enacted for qualified solar hot water systems and active space heating systems.

Analysis and Issues

The Administration argues that the energy credits for conservation and production are no longer needed because the investments yielding the greatest conservation gains have been made during the 8 years the credits have been in effect. At free-market prices it is argued that adequate incentives for investment in conservation equipment and nonconventional fuels already exist.

The energy credits have also been criticized as inefficient. For some energy credit claimants, the credit may be a windfall because the qualifying property would have been installed even if tax credits were not available.[35] Another potential inefficiency is that the same rate of credit may be available for equipment with different energy saving capabilities, while systems with the same energy effectiveness may qualify for different credit rates. Some conservation expenditures receive no credit if the equipment serves a structural as well as a conservation purpose (i.e., certain passive solar equipment). Similar inefficiencies arise because alcohol fuels receive a larger credit than nonconventional fuels on an equivalent energy basis (alcohol fuel facilities may qualify for the energy investment credit, as well). In general, it is argued that a unified incentive for production of alternative energy sources and for conservation, such as an oil import tax, would meet any energy security objectives while avoiding these problems.

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[35] H. Craig Peterson, "Survey Analysis of the Impact of Conservation and Solar Tax Credits," Final Report, submitted to the National Science Foundation, (July 15, 1982), p. 33. Less than 10 percent of residential credit claimants reported that they probably or definitely would not have made conservation expenditures if the tax benefits had not been available.

The energy credits also have been criticized on equity grounds. Individuals and firms that have little or no tax liability are unable to take advantage of most of these credits. Also, the bulk of residential energy credits have been claimed by middle and upper income taxpayers.[36]

On the other hand, proponents of the credits argue that incentives for energy conservation and for production of energy from sources other than oil and gas are needed in view of the national security considerations (discussed above in connection with the tax treatment of production expenditures for oil and gas.) It is further argued that it would be especially harmful to continue incentives for oil and gas production, (e.g., expensing of intangible drilling costs) while discontinuing incentives for conservation and use of alternative energy sources. It is argued that conservation and use of alternative energy sources may directly and indirectly reduce oil imports at much less cost than incentives for production of oil and gas. Further, the problems of inefficiency and redistributional effects listed above also apply to oil and gas incentives. In any case, it is possible to adjust for disproportionate use of the credits by any particular income class by designing the tax rates to take this pattern into account. It is argued that the case for continuing tax incentives for conservation and for production of energy from non-oil and gas sources is as persuasive as the case for tax incentives for oil and gas production.

2. Business Energy Credits

Present Law and Background

A 15-percent energy credit is allowed through 1985 for solar, wind, geothermal and ocean thermal property. (The rate was increased from 10 to 15 percent starting in 1980.) Qualified intercity buses and biomass property are eligible for a 10-percent energy credit through 1985. Small scale hydroelectric projects are eligible for an 11-percent credit. Solar, wind and geothermal properties are defined in the same manner as for the residential solar credits.

Prior to 1983, a general 10-percent investment credit was allowed for certain energy property in addition to the regular investment credit. Property eligible for the general 10-percent energy credit included alternative energy property, specially defined energy property, recycling equipment, shale oil equipment, equipment for producing natural gas from geopressured brine, and cogeneration equipment. The energy credit for most of these types of property terminated after 1982, except that the credit will be allowed through 1990 for long-term projects for which certain affirmative commitments were made.

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[36] Congressional Research Service, "An Economic Evaluation of Federal Tax Credits for Residential Energy Conservation," Report No. 82-204E (December 2, 1982).

Under the affirmative commitment rules, the 10-percent energy tax credit remains available after 1982 for credits that expired in 1982, if specified requirements are satisfied with respect to qualified property that is part of a project with a normal construction period of two years or more. The credit is allowed through December 31, 1990, for property that is constructed or acquired after 1982 if (1) all engineering studies on the project were completed, and applications for all environmental and construction permits required to commence construction were filed, before 1983, (2) before 1986, binding contracts are entered into to construct or acquire equipment that is specially designed for the project and which represents at least 50 percent of the aggregate cost of all such equipment, and (3) the project is completed before January 1, 1991.

Administration Proposal

Under the Administration proposal, the business energy tax credits would be allowed to expire at the end of 1985. The present law affirmative commitment rules would continue to apply.

Other Proposals

S. 1220

Under S. 1220 (Senator Hatfield and others), the energy tax credits for solar, wind, geothermal and ocean thermal property would be extended after 1985, under the following schedule:

Property	Credit rate	Termination date
Solar property:		
Low temperature	15%	Dec. 31, 1990
Other solar	25%	Dec. 31, 1990
Geothermal property	15%	Dec. 31, 1988
Wind property	10%	Dec. 31, 1987
	5%	Dec. 31, 1988
Ocean thermal property	15%	Dec. 31, 1990
Biomass property	15%	Dec. 31, 1987
	10%	Dec. 31, 1988

For the most part, these credits would be extended at the present law rate of tax credit. Solar property, other than low temperature, would receive a 25-percent credit instead of 15 percent, and it would consist of property to generate electricity, provide solar process heat, or provide hot water at a temperature more than 300 degrees Fahrenheit.

The credit for wind energy property would be phased down during the 3-year extension period.

In a mixed use geothermal energy situation, all energy property qualifies for the alternative energy property tax credit, if geothermal sources provide 50 percent of the energy used and the remainder is supplied from an alternate substance. When the other source does not use an alternate substance, the property would qualify for the credit to the proportionate use of geothermal energy. If geothermal energy supplies less than 50 percent of the energy, no property qualifies for the credit.

The definition of biomass property would be expanded to include (1) any synthetic gaseous fuel produced from wood and (2) methane-containing gas for fuel or electricity produced by anaerobic digestion from nonfossil waste materials at farms or other agricultural facilities which include processing of agricultural products.

Affirmative commitment rules would be modified with respect to certain long-term energy projects relating to solar energy and geothermal energy properties. If these properties meet the modified affirmative commitment rules, they would qualify for the credit over a longer period. In certain prescribed circumstances, a longer period would be made available also for certain hydroelectric projects.

The energy tax credits for intercity buses and small scale hydroelectric generating property would be allowed to expire after December 31, 1985.

S. 1201

S. 1201 (Mrs. Hawkins and others) would extend the energy tax credit for solar property as does S. 1220.

S. 1006 and S. 409

Under S. 1006 (Senators Kasten and Wallop) and S. 409 (Senator Bradley) the business energy tax credits would be repealed as part of repeal of the general investment tax credit.

Analysis and Issues

The issues with respect to business renewable energy tax credits fundamentally are the same as those with respect to residential credits, namely, whether the credits have been available for a sufficiently long period of time to encourage production and sales at efficient, self-sustaining levels, and if such production levels have not been reached, whether those levels will be attained solely because a tax credit is available.

3. Alternative Fuels Production Credits

Present Law

A tax credit is provided for the domestic production and sale of qualified fuels to unrelated persons. The credit applies to such fuels produced and sold from (1) facilities placed in service after December 31, 1979, and before January 1, 1990, or (2) wells drilled after December 31, 1979, and before January 1, 1990, on properties which first begin production after December 31, 1979. Qualifying fuels may be sold at any time after December 31, 1979, and before January 1, 2001.

The credit equals $3 for each 5.8 million Btu's of energy. (One barrel of crude oil contains approximately 5.8 million Btu's.) All Btu measurements must be made without regard to any Btu's attributable to materials or energy sources other than the qualified fuel. Except for gas produced from a tight formation, the $3 amount is indexed for post-1979 increases in the GNP deflator.

The credit phases out as the annual average wellhead price of uncontrolled domestic oil rises from $23.50 to $29.50 a barrel ($32.10 and $40.30, respectively, in terms of 1984 prices). The phaseout range is adjusted for post-1979 changes in the GNP deflator.

The credit is available for production and sale of the following fuels:

(1) Oil produced from shale and tar sands;

(2) Gas produced from geopressured brine, Devonian shale, coal seams, or a tight formation;

(3) Gas produced from biomass;

(4) Liquid, gaseous, or solid synthetic fuel (including alcohol) produced from coal (including ignite), including such fuels when used as feedstocks;

(5) Qualifying processed wood fuels; and

(6) Steam from solid agricultural byproducts (not including timber byproducts).

Administration Proposal

The credits for producing fuels from nonconventional sources would be terminated after December 31, 1985. However, the credit would continue for eligible fuel produced from a well drilled, or facility completed, before January 1, 1986, and sold before January 1, 1990.

Other Proposals

S. 1006 and S. 409

S. 1006 (Senators Kasten and Wallop) and S. 409 (Senator Bradley) would repeal the credits allowable for producing fuel from a nonconventional source.

S. 243

Under S. 243 (Senator Roth), no credit for producing fuel from nonconventional sources would be allowed after December 31, 1984, to a person other than a subchapter C corporation.

Analysis and Issues

The energy production credits were enacted in 1980 when oil prices had doubled within a period of one year. Since net imports were about 37 percent of U.S. petroleum and products in 1980, there was extensive interest in the United States to encourage development and production of alternative energy sources. Production of other fuels was to be encouraged by a production credit that was related to the price of oil, the rate of inflation, and the Btu content of the fuel relative to that of petroleum.

Since 1981, the price of petroleum has been falling on world markets reflecting increased production from new sources, conservation efforts, and industrial fuel switching.

Declining oil prices have squeezed the ability of alternative fuels to compete with oil because the costs of producing alternative fuels has not fallen. Consequently, efforts to produce such fuels profitably have been stymied.

On the one hand, it is argued that it is undesirable to continue the production credits in view of the present noncompetitive economic situation and the prospect that alternative fuels production will need to be subsidized, possibly for long periods of time. The needed subsidies may be so large that the credits clearly would be subsidizing very inefficient sources of energy production. Further, it is argued that a uniform incentive for conservation and for production of alternative energy sources, such as an oil import tax, would encourage, on an even-handed basis, all alternatives for reducing oil imports.

On the other hand, the credits, no matter now expensive currently, may be viewed as an investment in research and development for long-term future energy needs. If successful, these could yield large future benefits.

4. Alcohol Fuels Credit and Related Provisions

Present Law

Alcohol fuels credit

A 60-cents-per-gallon credit is allowed for alcohol used in certain mixtures of alcohol and gasoline (i.e., gasohol), diesel fuel, or any special motor fuel if the mixture is sold by the producer for use as a fuel or is used as a fuel by the producer (sec. 40).[37] The credit also is permitted for alcohol (other than alcohol used in a mixture with other taxable fuels) if the alcohol is used by the taxpayer as a fuel in a trade or business or is sold at retail by the taxpayer and placed in the fuel tank of the purchaser's vehicle.

The amount of any person's allowable alcohol fuels credit is reduced to take into account any benefit received with respect to the alcohol under the excise tax exemptions for alcohol fuels mixtures or alcohol fuels.

The credit is scheduled to expire December 31, 1992.

Excise tax exemptions for alcohol fuels mixtures and alcohol fuels

Alcohol fuels mixtures

Present law provides a 6-cents-per-gallon exemption from the excise taxes on gasoline, diesel fuel, and special motor fuels for fuels consisting of mixtures of any of those fuels with at least 10-percent alcohol (secs. 4041, 4081, and 6427).[38] (This is equivalent to 60 cents per gallon of alcohol in a 10-percent mixture.) The term alcohol is defined to include only alcohol derived from a source other than petroleum, natural gas, or coal. This exemption is scheduled to expire December 31, 1992.

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[37] The Deficit Reduction Act of 1984 (P.L. 98-369) increased the credit from 50 cents to 60 cents per gallon, effective January 1, 1985.

[38] The Deficit Reduction Act of 1984 (P.L. 98-369) increased the exemption from 5 cents to 6 cents per gallon, effective January 1, 1985.

Alcohol fuels

Present law provides a 9-cents-per-gallon exemption from the excise tax on special motor fuels for certain "neat" methanol and ethanol fuels derived from a source other than petroleum or natural gas. A 4-1/2-cents-per-gallon exemption is provided for these fuels when derived from natural gas (sec. 4041).[39] "Neat" alcohol fuels are fuels comprised of at least 85 percent methanol, ethanol, or other alcohol. This exemption is scheduled to expire December 31, 1992.

Duty on imported alcohol fuels

A 60-cents-per-gallon duty is imposed on alcohol imported into the United States for use as a fuel (19 U.S.C. 1202).[40]

Administration Proposal

After December 31, 1985, the alcohol fuels credit would be available only for qualified alcohol fuels produced from facilities completed before January 1, 1986, and sold before January 1, 1993. The excise tax exemptions would be repealed, effective after December 31, 1985. The duty on alcohol imported for use as a fuel would not be changed.

Other Proposals

S. 1006 (Senators Kasten and Wallop) and S. 409 (Senator Bradley) would repeal the alcohol fuels credit, but would retain the excise tax exemptions and the import duty.

Analysis

Proponents of the alcohol fuels credit and excise tax exemptions suggest that these incentives are necessary to encourage development of viable alternatives to petroleum fuels. Proponents point to the United States dependence on imported oil and to actions by other countries disrupting international markets in recent years. Proponents argue that development of a domestic alternative fuels industry is essential to national security.

Opponents of these incentives suggest that the incentives are inefficient and further that they are unnecessary subsidies in light of current world oil market conditions. Opponents point out, for example, that the 60-cents-per-gallon alcohol fuels credit and the equivalent subsidy provided by the alcohol fuels excise tax exemption produce a Federal Government subsidy equal to $25.20 per barrel of oil equivalent.

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[39] This 4½-cent-per-gallon exemption was enacted in the Deficit Reduction Act of 1984, effective January 1, 1985.

[40] The Deficit Reduction Act of 1984 (P.L. 98-369) increased the duty from 50 cents per gallon, effective January 1, 1985.

Statement by Senator Dave Durenberger
Hearing on the Impact of Taxation on National Energy Policy
June 21, 1985

I want to congratulate you, Mr. Chairman, for holding this hearing today. From looking over the witness list, I can see that we will hear from every side on the impact tax law has on domestic policy and national security. I think this is going to be an excellent hearing, the topic is timely and I believe the debate will be good.

The tax code historically has been used to encourage certain activities. The tax code provides a host of incentives intended to increase energy development, including oil, gas, coal, synthetic fuels, powerplant construction, renewable resources and efficiency. Several other incentives are well utilized by the conventional energy industry -- such as the investment tax credit, accelerated depreciation, and the foreign tax allowance.

Treasury I eliminated all of these incentives or subsidies. Treasury II, however, modified Treasury I and retained incentives for some segments of the energy industry. These incentives remained because "any reduction would increase the country's depedence on foreign energy, exacerbate the problem of the trade deficit, and again make the U.S. vulnerable to concerted political or market action by foreign energy producers."

Treasury II eliminates the energy investment tax credit for alternative and renewable energy resources. Their rationale is that since tax credits were enacted during oil and gas price controls, and we no longer have these controls, we no longer need to provide incentives to encourage the development of alternative energy. I don't agree.

The Administration's energy policy is centered around one simple goal -- to assure an adequate supply of energy at a reasonable cost, and the market determines what is reasonable. But they contradict themselves. In the name of national security, the Administration is willing to use the tax code, not the market place, to minimize an energy disruption by encouraging domestic production of oil and gas, which are nonrenewable energy resources. At the same time, the Administration leaves it up to the market to encourage renewable energy resource development.

Minnesota is at the end of the oil and gas pipelines. I remember what happened in 1973 and 1979. And I firmly believe a strong, secure and sound energy future rests on a balanced energy resource base.

In evaluating the tax reform proposals now before us, I have only one point to make. If we are going to use the tax code to encourage certain types of energy activities in the name of national security, we ought to use the tax code to encourage other types of energy activities in the name of national security. What's good for the goose ought to be good for the gander.

Thank you, Mr. Chairman.

Senator **Wallop**. Good morning.

I have an overpowering urge to suggest that we shut it all down in here and go out on the lawn. It's almost a Wyoming kind of day, isn't it? That may be partly an explanation for why I am 5 minutes late, as I decided to walk back from the Capitol instead of ride underground.

I really would like to welcome most sincerely all of the witnesses who have taken the time to come to testify before this subcommittee, which intends to explore in far too short a period the impact of taxation on national energy policy.

Once again recent events—recent and tragic events—in the Middle East draw attention to America's vulnerability to unpredictable acts of terrorism, as well as the ongoing uncertainty and instability in that area which fuels much of the industrialized world.

We all seem to think that we have hit a new millennia where oil will always gush, gas will always flow, and dreams of tomorrow need not be troubled by thoughts that are in fact troublesome.

But again, events such as these should focus our attention on bolstering our own domestic energy resources, both finite and renewable, and to really plan for a secure energy future.

I am one who is totally persuaded that, after 8 years in Congress and in spite an energy crisis in 1979, this country is simply not capable of finding a convenient time to make energy resource plans. When it is like it is now, who needs to be bothered? There are other troublesome situations on the horizon, like it was in 1979. Someone could blame political pursuit yet, the blame can also be placed in never looking homeward to where the responsibility ultimately lies, and that is in the leadership of a country which refuses to come to grips with the reality of the world in which we live.

This hearing was not designed to specifically dissect the various energy-related aspects of the President's plan or the several other tax reform plans floating about, although such discussions will be very welcome. It is intended, however, to provide intellectual fuel and hopefully some fire to exploring the relationship—good or bad, true or false—that may or may not exist between adjustments in the Tax Code and the impact on our country's energy security, energy planning, energy exploration, energy development, and energy production, a reliance on energy products that are imported, and the development of alternative fuel sources.

It is my intention to start establishing a record on tax policy and its impact on our country's energy industries, and ultimately upon our energy security. Then, as we tip-toe down the tax-reform alley, we will be in a better place to frame those difficult decisions around the choices of energy independence, dependence, or indifference.

Chief Justice Marshall once observed that the power to tax involved the power to destroy. As we move closer towards exploring various tax reform options, I do hope we will exercise another economic power at our disposal, our power to create rather than destroy.

Now, it is my understanding that Senator Weicker will not be here to present his testimony, so then we will move directly on to my friend and our Secretary of Energy, the Honorable John Herrington.

STATEMENT OF THE HON. JOHN S. HERRINGTON, SECRETARY, DEPARTMENT OF ENERGY, ACCOMPANIED BY DONNA FITZPATRICK AND STEVE HEROD

Secretary **Herrington**. Mr. Chairman, I would like to start out by saying that I have looked at the selection of witnesses that you have for this hearing, and I find it very impressive. I hope that we from the Energy Department will be able to add to the cumulative knowledge that you will be getting from this hearing. But I congratulate you on assembling an outstanding group of energy experts on a very difficult subject.

First of all, I have a written statement that I would appreciate having included in the record, if I could. I do have some brief opening remarks.

Senator **Wallop**. By all means, Mr. Secretary. Thank you.

Secretary **Herrington**. If I could introduce first seated to my right is Donna Fitzpatrick, Assistant Secretary of Energy, Acting at this time, although her name is proceeding for confirmation, for Conservation and Renewable Energy.

On my left, if I could introduce Steve Herod, who is Director of Coal and Electricity Policy for the Department of Energy.

To analyze the impact of the President's tax reform proposal on the Nation's energy resources, we have to keep in mind that America's energy economy is comprised of several different sectors, each with a unique set of attributes, and each uniquely affected by the President's tax plan.

Roughly, there are two types of energy sectors—those involved in natural resource recovery, and I refer particularly to the oil and gas industries, and those involved in what we call "energy conversion," particularly capital-intensive electricity and renewable-resource industries. The coal industry is somewhat of a hybrid, in that it's a resource-recovery industry, but it is also capital-intensive, and particularly in the West.

The U.S. Tax Code has always played an important role in the development of our natural resource recovery industries. Depletion allowances and expensing of intangible drilling costs and dry hole costs have provided incentives to find and develop our domestic energy resources.

Before these incentives are eliminated, we must carefully consider the costs of increasing our reliance upon potentially insecure foreign energy sources.

The tax impact is different for conversion industries, which are capital intensive. Whether you produce electricity through coal, through nuclear power or emerging technologies, you have a very capital-intensive situation, and the provisions in the tax code that apply to this capital formation have a substantial impact on these particular industries. For the sake of clarity, I would like to take them one at a time.

First, the oil and gas industry. Since 1981, we have stressed the primary role of a free market in determining the supply and allocation of oil and natural gas in our economy. Removal of price and allocation controls on crude oil and petroleum products and partial decontrol of natural gas have resulted in increased production of domestic oil and gas and lower prices to consumers.

We recognize, of course, that the Federal income tax provisions are going to have some effects on the production of energy; and therefore, we support the tax policies that minimize these effects.

For oil and natural gas industries, the President's tax reform proposal retains those existing tax incentives necessary to maintain our energy security, our strength, and our independence, while at the same time establishing greater tax neutrality. Efficient tax incentives for domestic production of oil and gas have been retained, while other benefits have been reduced to enhance tax simplification and tax fairness.

One aspect of the President's plan that will affect oil and gas producers is the phaseout over 5 years of percentage depletion for nonstripper wells. Under the President's plan, percentage depletion is going to be retained or be proposed to be retained only for the working interest in stripper wells owned by independents. While these wells produce, on average, less than three barrels of oil per day, they account for nearly 10 percent of our domestic oil supply and production. The repeal of the percentage depletion could reduce their profitability and lead to an early abandonment. This could lead to increased dependence on foreign oil.

The treatment of intangible drilling costs (IDC's) is another implicit incentive for oil and gas drilling. We favor maintaining the current tax treatment of IDC's, because their elimination would cause a substantial decline in the exploration and drilling necessary to sustain future oil and gas production.

We estimate that the overall impact on the oil and gas industries from the President's proposal would be a moderate increase in the tax burden. We must remember that the effects of the repeal of the percentage depletion allowances and the elimination of the investment tax credit would be offset somewhat by the reduced corporate tax rate and the indexing of the basis for depreciation and cost depletion.

Under the President's plan, we believe that the effective tax rate for drilling and exploration will be lower for integrated oil companies and slightly higher for independents. We estimate the average effective tax rate on exploration and drilling activities will remain the same or even decline slightly, thus maintaining our energy security.

In the near term, 1986 through 1992, the tax plan may cause a small reduction in domestic oil and gas production, our models show us, of up to 130,000 barrels of oil per day or about 1 percent of oil production in this country. This effect would diminish as the industry adjusts to the new tax provisions. In the long term, 1995 and beyond, the President's proposal would have no measurable effect on U.S. oil and gas production.

Turning, if I could, to the coal industry. In considering the impact of the President's proposal on the coal industry, we have to bear in mind two key points: First, because of differences in mining techniques, mine size, and resource geology, different mining companies will be affected in different ways, to different extents.

Second, because coal markets are likely to remain relatively soft into the next decade, there is little likelihood that a significant number of new mines would be opened for some time even under current tax policy.

The President's tax plan proposes to phase out percentage depletion for coal, to be replaced with cost depletion. The capital provisions of the tax plan, elimination of the Investment Tax Credit (ITC), and adoption of the Capital Cost Recovery System (CCRS) depreciation schedule also affects the coal industry. The net effect of these changes is mixed, from our models, for existing mining operations. Tax liabilities will probably increase for some mines and probably decrease for others. Our analysis suggests that after-tax income from existing mines will decrease slightly, primarily due to cost depletion.

In the long term, as new mines are needed, these changes could result in higher coal prices, as much as 5 percent at new deep mines and 7 to 10 percent for new surface mines.

However, excess coal deliverability should substantially mitigate the effect on coal prices well into the next decade. Moreover, electric powerplants, the most important coal consumer in our country, will be helped by the President's proposal and will probably demand as much coal as they would have under present tax policy.

Speaking of electricity: Because electricity production is the most capital-intensive enterprise in our Nation's economy, there is increasing concern that under current regulation the industry may not be able or willing to undertake major capital investment. Should demand for electricity continue to grow, this would be a major concern. Consequently, from an energy standpoint, it is important that tax reform preserve adequate incentives to undertake necessary capital investment in electric generation.

I believe the President's plan does this. Under the President's plan, the investment tax credit, which has been important to the power industry, would be repealed. We estimate, however, that the offsetting effect of the reduced corporate tax rate coupled with the depreciation treatment offered all electric power assets under the Capital Cost Recovery System, mitigates the negative impact on capital formation associated with the repeal of ITCs.

It is interesting to note that I was in Denver last week with the Edison Electrical Institute, over 2,000 of our electrical producing executives and officers of companies in this country. They did pass a resolution at this meeting that they fully support the President's tax simplification and fairness plan, after weighing the effects of these proposals on their own industry.

On a national basis, we expect that in the short term the President's plan would significantly reduce overall tax liabilities. It would reduce electricity prices by as much as 2 to 6 percent, offsetting the benefit of lower taxes.

There will be a reduction in cash-flow for the electricity industry. Fortunately, this reduction comes at a time when the industry's cash needs will also be declining due to the winding down of current construction programs.

Our principal concern in these issues is to ensure that in striving for equity the new law does not inadvertently disadvantage utility companies, which are currently bringing new capacity into service.

Many of the companies about which I am concerned are already experiencing substantial financial distress caused in large part by scant internal cash flow and difficulty gaining access to capital markets. These provisions could create an additional cash-flow burden on companies least able to cope. Consequently, we are currently evaluating each of these provisions to determine the extent of the potential problem.

Turning to conservation and renewables, I would note that a variety of energy tax credits are currently available to stimulate investment in renewable energy technologies and residential energy conservation. These credits were enacted during the energy crisis of the late 1970's, a period of price and allocation controls. The controls had caused oil imports to increase, inhibiting the competitive forces which would have caused more use of alternative energy sources. At that time, several renewable energy technologies had yet to establish themselves as viable economic enterprises.

Virtually all of these tax incentives were established with fixed expiration dates. Congress recognized that tax subsidies should be a temporary incentive to develop innovative technologies and not a permanent subsidy. If considered from an energy perspective alone, we believe that some energy tax credits are beneficial under the current Tax Code. However, the President has addressed the larger problem of long-overdue reform of our tax system. The success of tax reform hinges upon the abandonment of special privileges, however well-intentioned. These tax incentives have too often become devices for tax avoidance. Taken together, they have made our tax system excessively complex and unfair.

The Department recognizes that in the context of the President's tax proposals it is worthwhile to subordinate total commitment to increased use of conservation and renewable energy in order to achieve a healthier and more productive economy. In the long run, a very strong economy which encourages entrepreneural activity is the best way to spur new technologies, including renewable energy technologies.

The overall impact, Mr. Chairman, I believe, of the President's tax reform plan represents a balanced approach that assures continued stability, security, and strength in the energy markets. The plan offers the necessary assurance that exploration and development of our scarce domestic oil and natural gas resources will continue at a pace necessary to protect our national energy security, and ensure a strong domestic petroleum industry. At the same time, continuation of the windfall profit tax, loss of the investment tax credit, and recapture provisions of the CCRS combine to ensure that these industries will continue to pay a fair share of taxes, particularly in their capital-intensive refining and transportation operations.

The President's proposal will also result in lower prices for electricity consumers, without affecting the overall ability of the electricity industry to meet future power needs. Coal producers are likely to see a very small near-term increase in their tax burden. However, there is a potential for coal prices to rise 5 to 10 percent in production from new mines.

We do not expect these small increases to have much effect on electricity prices, or to interrupt the continuing growth of our Nation's use of domestic coal. The plan is unlikely to have any substantial effect on the pace of nationwide energy conservation. It will, however, affect some renewable technologies. It is a fact of life that some of those receiving special benefits under the current system are going to have to give up their benefits to achieve a comprehensive tax reform, but we will all benefit from lower taxes, greater incentives for capital formation, and a more efficient economy where the energy options can compete on their own merits. In the long run, the President's proposal will be very supportive of our primary energy policy goal of assuring an adequate supply of energy at a reasonable cost. It will promote the security and strength of our energy system's necessary components long-term economic growth.

Mr. Chairman, in addition to the energy-specific aspects of this tax proposal, let me reiterate some of the key benefits that all taxpayers will receive as a result of the President's proposal.

This plan will permit individual Americans to enjoy the lowest marginal tax rates of any industrialized nation in the world. At the same time, the maze of deductions, credits, and outright loopholes currently in the books, items that tend to benefit mainly a few high-income individuals, will be eliminated. Reducing these special features will also permit a reduction in the tax burden placed on low and fixed income Americans.

The President's plan will, for example, replace the present steeply-graded system of 14 different tax rates with a flatter, simpler three-step design that will allow taxpayers to keep more of each individual dollar earned. Of those who pay tax, 7 out of 10 will pay at the maximum rate of 15 percent, and fully 97 percent of all taxpayers will pay no more than 25 cents on the dollars they earn. Only 3 percent of America's families will have to pay at the highest rate, which is proposed to be 35 percent.

On the corporate side, the President's plan will streamline the present ad hoc system of deductions in order to set the stage for an entrepreneural renaissance of small business formation, job creation, and technological advancement. To further promote business formation, the President proposes to reduce the maximum corporate tax rate, currently 46 percent, to 33 percent. Most small corporations would pay even lower rates. With lower rates, nearly 15 million small businesses which are individual proprietorships or partnerships can lead the way in creating jobs for all who want to work.

To marshal more venture capital for more new industries, the President's plan would lower the maximum rate on capital gains from 20 to 17.5 percent. The President's plan would cut back on special preferences that have for too long favored some industries at the expense of others, by repealing the investment tax credit and by reforming the depreciation system. However, the incentives for research and experimentation are going to be preserved.

The net result of the changes to the corporate and individual tax systems will be improvements in productivity of all capital investments, increased employment, and increased growth, and, most important, fairness. The base of taxpayers will be broadened, and for the first time we will have a chance of gaining access to some of the $200 billion in underground economy that has grown up.

In conclusion, Mr. Chairman, every single segment of every sector of America's energy system will not benefit immediately from the individual provisions of the President's tax reform proposal, although most of them will. Taken out of context, it might seem that this provision or that provision would hurt some energy sector; yet, taken as a comprehensive package, there is no doubt that America's energy position will approve from the enactment of this tax reform. America's energy security and the economic strength are closely related; you can't have one without the other. Tax reform will stimulate the economy, encourage investment, and promote new technologies. This in turn will help all American energy sectors.

I believe that tax reform is good for the American energy picture, and I urge you and other Members of Congress to enact the President's plan by the end of the year.

Thank you very much, Mr. Chairman.

[Secretary Herrington's written statement follows:]

STATEMENT OF

JOHN S. HERRINGTON
SECRETARY OF ENERGY

BEFORE THE

SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION
OF THE
COMMITTEE ON FINANCE
UNITED STATES SENATE

JUNE 21, 1985

INTRODUCTION

Mr. Chairman and Members of the Subcommittee, I am pleased to appear before you today to discuss the President's plan for tax reform and its effect on energy.

Our Nation's energy policy is designed around the simple goal of assuring an adequate supply of energy at a reasonable cost. The strategies adopted by the Administration for achieving ~~our~~ energy policy goal reflect the lessons America has learned over the past several decades about what has produced economic growth and prosperity. These strategies are:

- To minimize federal control and involvement in energy markets while maintaining public health and safety and environmental quality; and

- To promote a balanced and mixed energy resource system.

These strategies offer the best possible assurance that individuals and businesses throughout the Nation will have abundant and affordable energy available when, where, and in the forms it is needed.

Tax policy has an important impact on energy markets. The President's tax simplification initiative supports this basic energy policy goal while providing the additional benefits of a tax system which is simple, equitable and consistent with the national objective of promoting efficient use of resources and sustained economic growth.

BACKGROUND

Our Nation's energy economy is comprised of several different sectors, each with a unique set of attributes and each uniquely affected by the President's tax reform plan. These various sectors can be roughly divided into two groups: those that are involved in natural resource recovery, particulary the oil and natural gas industries; and those that are involved in energy conversion, particulary the capital intensive electricity and renewable resource industries. The coal industry is somewhat of a hybrid in that it has attributes of both a natural resource recovery industry and is capital intensive, particularly in the Western regions of the country. This broad classification of the energy industries is helpful in evaluating the President's tax reform proposal, as it tends to affect the two classes of energy industries differently.

For many years, the U.S. tax code has played an important role in encouraging and supporting the development of our natural resource recovery industries. Depletion allowances and expensing of intangible drilling and dry hole costs, for example, have been used through the years to provide incentives to explore for and develop our domestic energy resources. In judging the merits of any tax reform proposal, the substantial benefits from eliminating special allowances and incentives -- including fairness, simplicity and economic growth -- should be weighed carefully against the costs of increasing our reliance on potentially insecure foreign energy sources. It is the Department's strong belief that the President's tax reform proposal has struck an appropriate balance between these two considerations.

Nearly all conversion industries tend to be capital intensive. The production of electricity, whether through conventional means of coal and nuclear power or through emerging technologies involving renewable resources, generally requires the commitment of substantial amounts of capital. Electric power production is by far the most capital intensive enterprise in the Nation's economy. Thus, the provisions in the existing tax code which apply to capital formation have a very substantial effect on these industries.

In order to provide a clear view of the effects of the President's tax simplification plan on this Nation's energy economy, each sector will be discussed separately.

OIL AND GAS

Since 1981, federal programs and actions have stressed the primary role of the free market in determining the production and allocation of energy in our economy. Removal of price and allocation controls on crude oil and petroleum products and the partial removal of controls on natural gas prices have resulted in increased production of our domestic resources and lower prices to consumers. Other government regulations and procedures have been reviewed and modified or withdrawn to ensure that our abundant energy resources are used wisely and efficiently. As a result of market-oriented policies, U.S. energy consumption has declined, domestic energy production has increased, and our net dependence on foreign supplies of oil has been sharply reduced. We believe that market forces will continue to determine the most efficient use of our oil and natural gas resources and provide consumers with the benefits of increased competition and lower prices.

The Administration recognizes that federal tax provisions will have some effects on the production of energy; consistent with our overall strategy of minimizing federal control and involvement in energy markets, we support tax policies that minimize these effects. Provisions of the U.S. tax code have long been used to maintain a strong domestic oil and gas industry by providing special incentives for the exploration, development and production of oil and natural gas. The President's tax reform proposal retains only those incentives that are necessary to maintain our energy security, while at the same time eliminating or modifying other tax incentives in order to promote neutrality in the taxation of the oil and gas industry, as compared with other industries. As President Reagan stated in his televised address unveiling "America's Tax Plan": "By eliminating ... special preference[s] we will go a long way toward insuring that those who earn their wealth in the oil industry will be subject to the same taxes as the rest of us. This is only fair. To continue our drive for energy independence, the current treatment of the costs of exploring and drilling for new oil will be maintained." Tax benefits that provide efficient incentives for domestic production of oil and natural gas have been retained. Other benefits have been reduced in order to enhance tax simplification and tax fairness.

One aspect of the President's tax reform plan for oil and gas producers is the phase-out of percentage depletion as a method of cost recovery. Under current law, royalty owners, natural gas producers with long-term contracts, and certain independent producers are allowed to claim percentage depletion on production of up to 1000 barrels of crude oil per day. By allowing deductions to be claimed in excess of a taxpayer's investment, this acts as a general production subsidy. Moreover, percentage depletion encourages development of existing properties over exploration for new deposits, and favors production of more prolific and highly concentrated deposits as compared with marginal projects.

The President's proposal would phase-out percentage depletion over a five year period for all but the working interest in stripper wells owned by independents. While these wells produce on average less than 3 barrels of oil a day, they account for nearly 10 percent of our domestic oil production. Our analysis indicates that the repeal of percentage depletion for stripper wells could sharply reduce their profitability and lead to early abandonment. A significant decline in stripper well production could have the undesirable effect of increasing our dependence on foreign energy sources.

The tax treatment of intangible drilling costs (IDC's) is another incentive for domestic oil and gas drilling. Intangible drilling costs include amounts paid for labor, fuel, repairs, and site preparation necessary for the actual drilling. Under current law, integrated oil and gas producers may expense 80 percent of intangible drilling costs; independents can elect to expense all of their IDC's. Intangible drilling costs can represent as much as 75 percent of the costs necessary to discover and develop oil and gas reserves and when associated with a successful well, contribute to the value of the asset over its productive life. A matching of revenues and expenses would require that IDC's be recovered over the period of production. Thus the expensing of IDC's departs from ordinary cost recovery principles and provides an important benefit to companies that explore for and produce oil and natural gas.

A change from the current treatment of IDCs would be highly undesirable since it would cause a decline in the exploration and drilling necessary to sustain future oil and gas production. Clearly, energy security requires maintenance of current cost recovery rules for IDCs. The President's proposal would not change this aspect of current law.

Overall, we estimate that the oil and gas industry as a whole will experience a moderate increase in its federal income tax as a result of repealing percentage depletion and maintaining expensing of IDC's, along with the general changes in corporate taxation under the President's proposal. This change in the industry's tax liability will result from the combined effect of the repeal of depletion allowances, the elimination of the investment tax credit, and the recapture of benefits from the lower corporate rate. Our analysis indicates that any increase in tax liabilities will be small, as certain "benefits" in the package (the reduced corporate tax rate and indexing of depreciation and depletion allowances) will nearly offset the effects of other provisions of the proposal outlined above.

The additional tax burden, however, will not be distributed evenly among the various sectors of the oil and gas industry, or among companies in any particular sector. Integrated oil companies will experience a lower effective tax rate on drilling and exploration activities, balanced by a higher effective rate on their downstream activities. Because they currently receive somewhat better treatment than integrated companies, independents will experience a slight increase from current law in the effective tax rate on exploration and drilling. We believe that the industry average effective tax rate on exploration and drilling activities will remain stable or decline slightly, thus preserving -- or perhaps increasing -- economic incentives to drill and explore for oil and gas resources.

In the near term, from 1986 to 1992, the tax simplification plan may cause a small reduction in domestic oil production. We estimate that in 1988 this effect of the President's tax reform proposal could be a reduction in oil production of up to 130 thousand barrels per day, with an equivalent effect on natural gas from what production would be under the current tax system. This moderate effect would diminish over time as the industry adjusts to the new tax provisions. Reductions of this magnitude in the domestic production of oil and natural gas present little threat to our Nation's energy security.

In the long term, 1995 and beyond, the President's proposal will have no measurable effect on U.S. oil and natural gas production. The preservation of incentives to explore for new deposits and drill new wells will ensure that oil and gas producers will continue to develop our Nation's natural energy resources. The Windfall Profit Tax will be phased out between 1991 and 1993, further eliminating any remaining disincentives from the loss of percentage depletion allowances and other tax benefits provided under current law.

A stable domestic oil and gas industry is an essential ingredient for a secure America. The President's proposal is attuned to this reality and ensures continued development and production of our oil and natural gas resources.

CONSERVATION AND RENEWABLES

A variety of energy tax credits are currently available to stimulate investment in renewable energy technologies and residential energy conservation. These credits were enacted in the late 1970's, a period of energy crises and government-imposed price and allocation controls. These controls increased our dependence on oil imports and inhibited competitive forces that would otherwise have expanded the use of alternative energy sources.

Under those circumstances, certain tax incentives may have been helpful in establishing new energy industries employing wind, solar, geothermal and biomass technologies. At that time, several renewable energy technologies had yet to establish themselves as viable economic enterprises. More traditional technologies, such as small hydroelectric plants, were also stimulated by these tax code provisions. Residential energy tax credits provided incentives to some homeowners to install better insulation, weatherstripping, and storm windows and doors into older homes. The credits also helped spur the use of solar hot water heaters by many taxpayers.

Virtually all of these tax incentives were established by Congress with fixed expiration dates. Congress recognized that tax subsidies should be a temporary incentive to develop innovative technologies by providing access to capital markets and helping firms to establish a track record with which to attract investors.

It is always difficult to decide when to terminate such incentives. On the one hand, an argument could be made that selective extension could further stimulate infant industries by providing a broader base on which to grow when the tax credits are ultimately removed. On the other hand, it is clear that these tax subsidies, such as the residential credits, have served their purpose and need not be extended.

If considered from an energy perspective alone, we believe that under the current tax code some energy tax credits may be beneficial to particular industries. However, the President has addressed a larger problem in this long-overdue reform of our tax system. The success of tax reform hinges upon the abandonment of special privileges. However well intentioned, these tax incentives have too often become devices for tax avoidance. Taken together, they have made our tax system excessively complex and unfair.

Market forces have provided the strongest incentives for energy conservation and the use of renewable energy technologies. Through a multitude of Federal, state and local initiatives and programs, the Nation has supported and nurtured the conservation and renewable energy technologies. Consumer behavior, the ongoing Federal commitment to conservation and renewable energy, and a simpler, fairer tax system together will provide competitive opportunities for these industries within the marketplace over the longer term.

COAL

Incentives for coal mining are provided by both the natural resource extraction and capital provisions of the present tax code. Our preliminary analysis suggests that after-tax income of coal mining operations will be decreased by the proposed phase-out of percentage depletion and repeal of the investment tax credit, but be increased by the changes in accelerated depreciation. The likely net effect would be a reduction in after-tax income.

In considering the implications of the President's proposal for the coal industry, however, it is important to bear in mind two key facts. First, the cost structure of the industry is quite heterogenous, due principally to differences in mining technique, mine size, and resource geology. Thus, different mining companies will be affected in different ways and to different degrees. Second, both the world and U.S. coal markets are likely to remain relatively "soft" into the next decade, as the ability to produce coal will continue to be greater than the level of demand. There is little likelihood that a significant number of new mines would be opened for some time, even under present tax policy.

For existing mining operations, tax liabilities will probably increase for many mines but may decrease for others, with the bottom line for any given mine a function of its particular cost structure. Our analysis to date suggests that after-tax income from most existing mines will decrease slightly, primarily due to the change from percentage to cost depletion. A mine-mouth price increase of less than 1% might be required to maintain a constant level of profitability.

In fact, mine-mouth coal prices can be expected to increase less than this, with some decline in cashflow and profitability, because the softness in coal markets is likely to cause mine operators to absorb part or all of the increase in tax liabilities. It also seems likely that the proposal could reduce the incentives for modernization of existing mines, but we are unable to assess the magnitude of this effect on mine productivity.

In the long term, as the need to develop new mines emerges, the changes in depletion allowances and investment tax credits may result in more significant increases in tax liabilities for coal mining. If such increases coincide with a tightening of the coal market, moreover, they seem likely to cause commensurate increases in coal prices. Our preliminary estimate is that mine-mouth coal prices for new mines might increase 5% for deep mines and 7-10% for surface mines. This could, of course, be offset by technological and other changes that occur over time. Further, it is possible that the predominance of more capital-intensive surface mining in the West might result in a moderate market shift to the advantage of eastern deep mining. We are as yet unable to estimate the magnitude or implications of this shift.

The net effect of the President's tax proposal on the coal industry, then, will mean a higher level of tax liabilities for both existing and future coal mines, with an eventual price increase of perhaps 5-10% on coal from new mines, assuming no offsetting changes. However, excess coal deliverability should substantially mitigate the effect on coal prices well into the next decade. Further, electric utility powerplants, the dominant source of coal demand, will be helped by the President's proposal and are therefore not likely to use less coal than under the existing tax code.

In summary, the President's tax simplification proposal will not jeopardize our ability to develop our domestic coal resources in an economically efficient manner, as required to assure our Nation's continued energy security.

ELECTRICITY

Electricity production is the most capital-intensive enterprise in our Nation's economy. It takes, for instance, some $2.50 in assets to produce $1.00 in revenues in this industry, while other capital-intense industries such as steel or automobile production require less than $1.00 of assets to produce $1.00 of revenues.

There is increasing concern that under current regulation the electric industry may not be able or willing to undertake major capital investment programs that will be needed should the recent patterns of electricity demand growth persist.

Consequently, from an energy standpoint, it is important that tax reform preserves adequate incentives to undertake necessary and prudent capital investment. On balance, the President's plan will not introduce disincentives to capital investment for this industry.

Many have expressed concern over the President's proposed elimination of the standard investment tax credit (ITC); a feature in current tax law which has been of great importance to our Nation's electric power industry. We estimate, however, that the offsetting effect of the reduced corporate tax rate, coupled with the depreciation treatment offered all electric power assets under the CCRS rules, minimizes the effects on capital formation associated with repeal of the ITC.

For example, our preliminary estimates indicate that the life-cycle cost of building and operating a new coal plant will decline by as much as 5%, while the costs associated with building and operating a new nuclear facility would remain approximately unchanged.

Furthermore, on a national average basis, it is expected that the near-term effects of the tax plan would be a significant reduction in the industry's overall tax liabilities and a reduction in electricity prices in the range of 2-6%

compared to the existing tax law. In the longer term, this relative reduction in the price of electricity could be more significant as newer assets shouldering smaller tax burdens replace those currently in service.

Offsetting this benefit of reduced electricity prices, however, will be a reduction in cash flow for the electric industry in the years immediately following implementation of the President's plan. The cash flow reduction will be significant -- perhaps as high as 10% over the next several years. This projected reduction in cash flow is caused primarily by a reduction in deferred taxes resulting from the lower marginal tax rate in the plan. However, the timing of this reduced cash flow is fortuitous, since our estimates indicate that the industry's cash needs will also decline by several billion dollars over the next several years as current construction programs wind down.

An important concern is to ensure that in striving for equity, the new law does not inadvertently punish utility companies that are currently bringing new capacity into service. Much of the industry is already experiencing substantial financial distress caused in large part by scant internal cash flow and difficulty in gaining access to capital markets. These provisions could create an additional cash-flow burden on companies least able to cope. Consequently, we are currently evaluating each of these provisions to determine the extent of the potential problem, if one existed.

In summary, the President's tax reform program is likely to reduce prices and tax liabilities in the electric power industry. These benefits would be partially offset by the effect the proposal will have on the industry's cash flow; however, based on our analysis to date, we do not believe these cash flow effects pose an undue burden on the ability or willingness of the industry to undertake necessary future capital investment.

SUMMARY

The President's tax reform plan is consistent with our national energy policy objectives of assuring an adequate supply of energy at a reasonable cost. Although the plan does have some negative effects in each energy sector, these impacts are manageable and otherwise consistent with the plan's overall goal of achieving greater equity in our Nation's tax system.

Most importantly, the plan still provides the necessary incentives to assure that sufficient exploration, development and capital formation will be undertaken in all energy sectors to assure that our energy infrastructure will remain a strong foundation on which we will build economic growth.

Senator WALLOP. I think I detected the artful pen of Treasury, or something, in there for a little while. I am not quite certain what Treasury gets to say now, but we will await that.

Let me ask you: What is the "pace" necessary to assure America's energy security? You said that this would assure us that we could keep such a pace—what is that pace?

Secretary HERRINGTON. I am not sure I understand what you mean by the word pace.

Senator WALLOP. Well, that is your word, not mine. I am quoting from your remarks, that you thought that the overall effect of this would be sufficient to assure the pace necessary to assure America's energy security. I assume that you mean the pace of development and exploration, but I wanted to ask: What level of pace is that?

Secretary HERRINGTON. We are in a relatively comfortable period today. Our energy policy in past years has gone between periods of panic and complacency. We are in a period when we can take time to review what our future plans will be and develop in a comprehensive basis a mixed energy base, taking advantage not only of coal, oil, and gas, but attempting to develop the nuclear option, to take us through the year 2000.

I think the pace at this point is ripe for the capital formation. We have demand down, we have done a good job in conservation and renewables, and I think this is the pace that I am referring to.

Senator WALLOP. Presumably that is a movable feast, in that it relates to a circumstance as it changes in the world, because it would clearly not be a pace necessary if we were somehow or another to find ourselves on the threshold—which I don't anticipate—but if we were to find ourselves on the threshold of another energy crisis, it would be a totally inadequate pace. Or, if it were to be that the Soviet Union continues to seduce our European allies with increased exports only to get them to a degree of dependence which would cause disruption in the world's energy markets and cut that off, presumably that pace would not be the same.

How do we anticipate that a little bit? It seems to me that it is comfortable to say that where we are now is about right—our conservation is going well, demand is down—but you see forecasts as well, from the electricutility industry, for example, that we are coming in the early 1990's to a significant potential for brownouts, given the pace of development of the generating capacity that is in the country now.

Doesn't the tax system relate to that? And mustn't it be that we anticipate a few of those crises? And if so, how?

Secretary HERRINGTON. Well, I think we are doing that in the tax proposal that is being made. I have read the predictions of brownouts that you are making, in geographical areas. I saw predictions of potential brownouts in the area of Long Island this summer. It is a totally different problem, in my estimation.

Senator WALLOP. I think in the Southwest as well, talking about the 1990's.

Secretary HERRINGTON. I think we are making very good strides in those areas. There is good electrical-generation capacity coming online. There is a good pipeline under construction, and I think we are proceeding at a reasonable pace to provide generating capacity, as our demand studies show that we should be.

Senator **Wallop**. What about the area of oil and gas? EIA estimates that oil and natural gas met 66 percent of total U.S. energy demand in 1984, only 10 percentage points lower than the 76 percent that petroleum provided a decade earlier before we went through the two oil shortages. And perhaps of greater concern in the EIA forecast is belief that the next decade will see our petroleum needs decrease by only 5 percent, down to 61 percent, in 1995.

Now, with those figures in mind, doesn't the President's tax plan contradict its own stated intent of promoting a balanced and mixed energy resource system by phasing out the percentage depletion for coal and eliminating energy tax credits for renewable and conservation efforts?

Secretary **Herrington**. I don't think so. I think the oil and gas industry, like most of the industries in this country, must come to the bargaining table if we are going to have true tax fairness and tax simplification. I think the way the tax plan approaches the oil and gas industry assures that we will continue to have exploration.

An interesting figure that we had recently: There were 77 quads of energy used in this country last year. Fifty quads of that 77 were by oil and gas. It is a major source of our energy today, and we must keep replacing our reserves. And that is one of the reasons why we need to keep the intangible drilling costs in this package.

Senator **Wallop**. Would you address the issue of coal, their loss of percentage depletion? Your own statement was that the price of capital, availability of capital, to the coal industry would be affected. And I think that is true of the mining industry generally, although we are talking here only about energy.

In an industry that is sick, it seems to me that one of the statements that you made is that you are relying on a soft market anyway for them to tide themselves over until the other capital recovery systems proposed in the President's plan come to work. In the meantime, what does that say to the increasing level of imports of coal in a country which ought to have no problem competing with foreign coal? Aren't we in fact increasing the marketability and accessibility of our markets to foreign coal with the tax plan as it is devised?

Secretary **Herrington**. I think I would have to say yes—we are looking for a figure. We would say less than a 1-percent decrease.

Senator, I think that one of the things we need to do is increase the domestic use of coal. There is excess capacity in the coal industry today, but we need to find ways to move from oil and gas into coal. And we can do that in many ways that don't affect the tax policy: One, in our efforts of research and development on clean-coal burning, and in our efforts to help this industry become a greater percentage of U.S. energy.

Senator **Wallop**. But I want at least a reasonable proportion of domestically produced coal. I am concerned, then, in this interim period that you establish markets which are created by contracts, primarily, especially in that industry, to producers of foreign coal. Is that a concern that the Energy Department has weighed?

Secretary HERRINGTON. We have weighed it. Our models show that there is no significant impact from this tax bill from increased importation of coal. It is very small.

Senator WALLOP. Senator Bradley?

Senator BRADLEY. Thank you very much, Mr. Chairman. I appreciate the chance, and I welcome Mr. Herrington to the committee.

I would like to just follow up on the Chairman's question. It seems that there are two contradictory themes running through your testimony.

The first theme is: The market should allocate resources, and we should have as few subsidies as possible so that the market can most efficiently allocate resources. I agree with that. That is, though, inconsistent with the argument that you want to retain the subsidies for oil and gas.

The second theme that runs through your testimony is that energy independence is an important goal that we should strive for. If that is the case, then Senator Wallop's question is right on target. A barrel of oil saved in the United States, whether it is saved by backing out a barrel of foreign oil with renewables or coal, is as good as an additional barrel of oil produced in the United States, if your objective is in energy independence. How do you explain these two contradictions: On the one hand, let the market allocate resources but continue to selectively subsidize. On the other hand advocate "energy independence" but not do the things you need to do, according to your own definition, to obtain energy independence?

Secretary HERRINGTON. I think there are several points to be made on the oil and gas contradiction that you think exists here.

No. 1, we do have a large dependence on the oil and gas industry, which is having diminishing reserves. We need to keep the incentive because of the large dependence on that industry today for further exploration.

I think what you have done here is move toward a reasonable approach tax wise for that industry, in that you have taken away the depletion, which is a fairly large subsidy. You have left the intangible drilling costs. Depletion has been left for strippers, and there are 400,000 stripper wells in the country today that produce either three barrels a day or less. Stripper well production is owned mainly by independents. So you keep that industry viable.

And then they come to the table with the depletion.

Senator BRADLEY. Just a second. Keep what industry viable. Independents?

Secretary HERRINGTON. The independents, who are the main source of your exploration and drilling. The independents are the stripper owners. But you keep the royalty owner still able to participate in the investment incentive in drilling costs by putting the working interests still able to take the depletion allowance.

I think there are several reasons why you treat it this way. You definitely have increased the taxes on the industry; they have participated in tax fairness. The overriding issue I think you have in the oil and gas is the national security issue, because of our dependence.

I stated a minute ago that over two-thirds of our energy in this country is generated by oil and gas, 50 quads last year. It is a national security issue. This industry has to stay viable and able to keep up their exploration activities. So I don't see a contradiction in that, between the others, if you compare that to some of the other industries that are losing some of the tax benefits.

Senator **Bradley**. Right.

Secretary **Herrington**. For instance, we stated the renewables would have a problem with capital formation. Renewables only contributed 6 quads compared to the 50 from the oil and gas.

Senator **Bradley**. Right.

Well, I want to get to your national security argument, because that is at the core of the energy independence point; but let's get back to the market. Why isn't price a pretty good indication of where you should put your investment?

Secretary **Herrington**. I think it is.

Senator **Bradley**. Well then, why don't you want the market price as opposed to a price that is distorted by subsidies? Perhaps the reason is that you simply want to subsidize this industry, and you then put yourself in the position of saying that you have to subsidize it, even though it runs against the philosophy of the administration, because you have a national security argument. That is one possibility. I can think of another reason why you might want to subsidize this industry, but I won't offer that here. So what is your view?

Secretary **Herrington**. Well, I don't think it is debatable that, if you took away the depletion for stripper wells, you would close most of the stripper wells in the country. I can't think of anybody who would want to do that in this country; I think it would be very shortsighted.

The question you have to face and we have to face is how do you keep stripper wells open? You leave that depletion in effect for them.

What other methods could be proposed for encouraging continued oil and gas exploration during the period of the 1980's and 1990's while we are learning to burn our coal cleanly and while we are learning to accept nuclear power as a valid option?

Senator **Bradley**. Well, let's say that computer prices drop, as oil prices have dropped in the last couple of years. So the computer industry comes to us and says, "You know, what we need is a big tax subsidy; otherwise, we are not going to be able to produce computers, and it is going to be a national security question." Would you advise us to subsidize the computer industry?

Secretary **Herrington**. No. 1, there are tremendous differences between the computer industry and the oil and gas industry.

Senator **Bradley**. Many people argue that the health of the computer industry is very important for our economic security. And when we talk about oil supply disruptions and price hikes, what we're really talking about is economics. Oil presents us with a national security problem because if there is a supply disruption, the price rises steeply and that can have a severely depressing effect on economic growth, as we saw in the seventies. What we need are policies and programs that will mitigate the adverse effects of their price increases on our economy. I still say that buffer stocks are the most efficient way to do that.

Secretary HERRINGTON. Big differences. You have many, many companies in that particular industry. You have a whole plethora of technologies—software and hardware. You have many people competing for one purpose.

Oil and gas industry technology is fairly well known; reserves are hard to find; it is very capital-intensive as far as getting investment capital, whereas your computer industry does not have that particular problem. I don't see any comparison between the two, frankly. I think you can draw comparisons between other industries that would be closer.

Senator BRADLEY. Well, what would they be?

Secretary HERRINGTON. I would only be speculating, but I think on a national security basis you might want to look at the industry for steel plating, for instance. Steel plating is a hard commodity to come by, and it's difficult to produce. Certain companies can do it. And you would not want to ruin your industrial base in steel plating. And there are some other industries.

Senator BRADLEY. I was trying to keep the national security argument separate from the market argument.

Secretary HERRINGTON. I think that is the overriding argument that is being made, and I think it is a valid argument.

Senator BRADLEY. OK. Let me offer another perspective on that. Is your argument basically the following: Unless we subsidize the oil industry we are not going to have enough domestic oil, and we will be more dependent on foreign oil. Which is bad form a national security standpoint. Is that the argument?

Secretary HERRINGTON. I think, partially.

Senator BRADLEY. Again, Senator Wallop's question: If your goal is energy independence, what is the difference between another source of energy or conservation that backs out a barrel of foreign oil and an extra barrel of domestic oil which also displaces a barrel of foreign oil? What is the difference?

Secretary HERRINGTON. I think the difference as I see it is the magnitude that you are dependent on each of the various technologies. We have a fairly large dependence on oil and gas today. Some of the other technologies are, number one, not capable of producing the huge needs that we have in this country, either because they haven't been developed to a certain level in the commercialization of them, or perhaps they are not suited for nationwide use.

I think for the long-term energy strength of this country, you have to proceed on three fronts. No. 1, I think a concerted effort, not only by the Government but by private industry, has to be made to learn to burn coal cleanly. That is the No. 1 national policy that we need to do.

Senator BRADLEY. Yet you say we don't need to subsidize coal; we can eliminate that depletion allowance. That depletion allowance doesn't encourage any kind of additional coal production that backs out a barrel of oil. That is your point of view?

Secretary HERRINGTON. One of the things today, Senator, that we don't need is increased coal production; we need increased coal consumption in this country. We have a comfortable production at this time of coal. With oil, that is not the case. Also, with gas that is not the case. But that is the No. 1 priority that I see.

No. 2, moving forward on a multiple-phased national policy, we need to develop the nuclear power option in this country, to learn how to safely and economically use nuclear power, and to change the public's perception of nuclear power as a generating source.

No. 3, conservation and efficiency. We have to have conservation, and we must learn to be more efficient.

I think on those three you have formed a national energy policy.

Senator **Bradley**. And all three of those do not need subsidies, right?

Secretary **Herrington**. I think that is correct.

Senator **Bradley**. But oil does need a subsidy?

Secretary **Herrington**. As the status of the industry is today, I would say the proposals that are being put forward in this tax bill are reasonable, they require increased tax burden of the industy, and they give you the maximum flexibility.

Senator **Wallop**. Mr. Secretary, there is an argument whether an IDC is a subsidy or merely the means by which others in America expense, depending on their business. And I think I would not want to see you, or would hope that you would not, think that that was a subsidy as Secretary of Energy, but that it was an expensing concept and that it is similar to what is afforded to all the R&D industries.

Secretary **Herrington**. Thank you. I have carefully not used the word subsidy, because I do not agree with that principle that it is a subsidy. I know the argument is out there, but I don't accept that.

Senator **Bradley**. Mr. Herrington, do you know the history of the oil depletion allowance?

Secretary **Herrington**. Well, I am sure there are others who know more than I do about it. In the 1960's in law school we learned, in basic depletion tax law, that there was a 27.5 percent depletion allowance for minerals and oil, and I have watched it progress through the years. In 1975, when the majors were taken out, it was reduced down to the current levels of 15 percent. I know the theory behind it.

Senator **Bradley**. Well, this history—I mean, we have had it a long time. And it was proposed first in 1918. And the argument for it was that we needed oil to win World War I, and therefore we had to provide this incentive. It was passed in 1919, after the war was over, and it has stayed in the code throughout the last 50–60 years. And as people began to look at it, they began to question it. And instead of eliminating it, because its first purpose was no longer needed, you have simply added those depletable assets; so that now you don't just have oil or coal, but you have got pumice, sand, clay used in certain flower pots, oyster shells. The point is, once something gets in the code, for what was apparently a good reason at the beginning, it becomes religion, and it is never questioned.

My only point is, if your goal is energy independence—and I would question that as a goal. But if your goal is energy independence, I don't see much difference between backing out oil with some other form of conservation or other energy source and backing out oil by an additional barrel of production, with one exception: The difference between those two is, if you conserve or if you do coal or you do nuclear or you do some other, you are developing another energy source. If you say you just want to produce an additional barrel of oil, you are draining America first.

So, the argument could almost be flipped on its head here. And to the contrary, by providing these kinds of subsidies, you are heading down the road where you not only do not have the most efficient allocation of resources but you drain America first.

Secretary **Herrington**. I think I could say several things. One, you need to pursue on all fronts. We have lots of sources of energy. We need to develop the ones that have the most promise.

I am glad to hear you say that depletion needs to come out, because we are proposing to take depletion out with the exception of stripper wells.

Senator **Bradley**. Almost all of it.

Secretary **Herrington**. Almost all of it.

Senator **Bradley**. Those three barrels a day—that is essential for our national security.

Secretary **Herrington**. But I think you would agree with me that, if you do not allow the depletion for the stripper wells, you will automatically shut them down. And it is quite a lot of the production. That is 10 percent of our production that would automatically shut. I don't think that is arguable.

Senator **Bradley**. Not at all, no matter what the price is.

Secretary **Herrington**. The other point is, I won't argue on why depletion was set up; maybe it was to win World War I. I wasn't here.

Senator **Bradley**. I wasn't either. [Laughter.]

Secretary **Herrington**. The theory behind depletable assets was, you were taking something away and using it and you are not replenishing it, just like depreciation. I can see the theory behind it, and I think it is good, sound economic policy in some cases.

Senator **Bradley**. Thank you.

Senator **Wallop**. Thank you, Senator Bradley, and thank you, Mr. Secretary. I assume that over the course of time there will be questions in the area you discussed concerning cash flow problems that would affect the electrical producing energy, and the studies that you were going to make on that subject. I hope you will be quick to inform this committee of those effects and any changes that you might suggest be made to ameliorate those.

Secretary **Herrington**. Sir, I think one of our obligations is to monitor this thing on an ongoing basis and give you as much information as we have, so that you can make your decisions here. But we will continue to provide you any information that we have.

Senator **Wallop**. Thank you very much, and I appreciate your presence here today.

The next witness is the Honorable Dr. Fred Ikle, Undersecretary of Defense for Policy, Department of Defense, who will be accompanied by the Deputy Director for Energy Programs Mr. Jeffrey Jones.

Good morning, Mr. Secretary. I appreciate your coming, and your willingness to come this morning.

STATEMENT OF DR. FRED C. IKLE, UNDER SECRETARY OF DEFENSE FOR POLICY, DEPARTMENT OF DEFENSE, ACCOMPANIED BY JEFFREY JONES

Dr. IKLE. Thank you, Mr. Chairman. I thank you for the invitation to appear before your committee to address the Department of Defense views on energy security.

I will not address alternative energy tax policies. Secretary Herrington has provided you with the administration view on that subject.

I would like to focus my comments on defense requirements for petroleum products, and on some of the challenges which we face in assuring adequate supply of petroleum for national security in time of emergency or war.

The Defense Department is the world's largest single consumer of petroleum products. DOD consumes half a million barrels per day, at an annual cost of about $7 billion. But during an emergency this demand could increase as much as three or fourfold.

DOD's worldwide procurement, distribution, and storage system is equivalent in size to some of the largest private oil companies. In DOD we hold over $4.5 billion worth of petroleum products in inventory both for peacetime and initial wartime operations, at some 200 wholesale and many hundreds of retail storage points.

During the early stages of an emergency, requiring mobilization of our forces, the petroleum consumption of course would increase quickly; hence, we hold a large portion of our stocks as war reserves.

Because DOD is such a large consumer, we are dependent on a continuous supply, a continuous flow, of petroleum products. Our management of the supply has improved—we made a major effort in the last 4 years. This has resulted in improving efficiency, but it has also improved because of the soft market conditions, of course.

We have reduced DOD fuel consumption by increasing fuel efficiency in our systems. As a result, what traditional things we could do with conservation, or call it efficiency, in time of emergency is more limited now.

Three requirements for ensuring fuel supply for our national security must be kept in mind. First, you have to continue to support a strong domestic petroleum industry to have a continuing flow of fuel, petroleum. The soft oil market, as you discussed just now, and the overcapacity worldwide create diverse pressures on the domestic oil exploration and production industry. So our energy policy is to recognize the need for continued domestic exploration and development of energy supplies to decrease dependence on foreign supplies. But this objective, of course, has to be balanced with our goal of maximizing economic efficiency by allowing markets to determine the course of energy supply and demand—a difficult balance.

Second, we must maintain the refining capacity adequate to support national security needs. Our Armed Forces obviously need petroleum products, not crude oil. In this regard, we in DOD look forward to the completion of the study by the National Petroleum Council on the domestic refining industry. This study will address the likely impact of future imports of refined oil products from new refining capacity in the Middle East and elsewhere. And we also are participating in the interagency study of the trade aspects of oil products and petrochemical imports which is chaired by the U.S. Trade Representative.

Third, we must attend to energy emergency preparedness, special measures for DOD supportive of our needs. The key measure here has been the development of the large strategic petroleum reserve, the SPR. It not only provides some 430 million barrels now of crude oil for use in times of emergency, but it can also have a calming effect on markets during a time of uncertainty such as the recent attacks on the tankers in the Persian Gulf.

And we recognize the contribution in DOD that the fiscal year 1986 moratorium on SPR fill can make to reducing the Federal deficit. Yet, seen in light of emergency preparedness, the SPR fill should resume as soon as practical from a budgetary standpoint.

A further useful element in energy preparedness is the international energy program, through our U.S. participation in the International Energy Agency, which gives us a forum to coordinate energy preparedness in a crisis with our allies.

Under probable emergency situations, our first response to a petroleum supply disruption in DOD would be to draw on our peacetime stocks. These stocks, though, are small, equivalent to less than 2 month's consumption. Therefore, we would then be forced to rely on extraordinary procurement authority provided last year by Congress. This authority, you may recall, allows us better to compete in the commercial marketplace by avoiding various regulations and normal contracting procedures.

Further, an agreement with the Department of Energy and cancellation clauses in Naval Petroleum Reserve contracts would allow DOD to claim up to 100,000 barrels per day from Naval Petroleum Reserve production, to exchange for petroleum products. And then, under the SPR drawdown plan, Defense could ask DOE to direct sales to DOD's suppliers for up to 10 percent of any given drawdown volume.

Now, if the emergency should deteriorate further, the President could, of course, invoke the Defense Production Act, which would then enable DOD, through the Department of Energy, to impose mandatory allocation for defense consumption.

And as an absolute last resort, the Defense Department could draw on its war reserve stocks. Drawing on war reserves is risky, in that it reduces both the readiness and sustainability of our military forces.

I hope this brief discussion has provided some useful information for you on the relationship between energy policy and national security in our emergency needs.

I would be pleased to respond to your questions, Mr. Chairman.

Senator WALLOP. Good. Thank you. It does add to the discussion, and it tends to indicate that, no matter what one devotes to the free market economy and the national interests of the country, there has to be some manipulation in order to provide for survival.

[The statement of Dr. Ikle and Jeffrey Jones follows:]

STATEMENT OF
DR. FRED C. IKLE
UNDER SECRETARY OF DEFENSE FOR POLICY
before the
SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION
SENATE COMMITTEE ON FINANCE
JUNE 21, 1985

Thank you for the invitation to appear before the Subcommittee today to talk about the Department of Defense's views on energy security. I will not address specific issues concerning alternative energy tax policies as Secretary of Energy Herrington has provided you with the Administration's views on this subject. I would like to focus my comments on Defense requirements for petroleum products and some of the challenges which face us in assuring an adequate supply of petroleum for national security.

The Department of Defense is the world's largest single consumer of petroleum products. DOD consumes about 500,000 barrels per day at an annual cost of about $7 billion. Table 1 (on the next page) shows DOD demand for petroleum by fuel and by region for fiscal year 1984. During an emergency, this demand could increase as much as 3 or 4 times this peacetime level.

TABLE 1.
DEFENSE PETROLEUM PRODUCT DEMAND
(Fiscal Year 1984 - Thousands of barrels per day)

PETROLEUM PRODUCT	DEMAND BY REGION			TOTAL DEMAND
	PACIFIC	EUROPE	CONUS[1]	
JET FUEL	47.6	44.6	265.0	357.2
JP-4	32.3	27.1	221.4	280.8
JP-5	15.3	7.1	43.6	66.0
JP-8	0.0	10.4	0.0	10.4
DIESEL FUEL MARINE	35.9	14.2	33.2	83.3
MOTOR GASOLINE	1.9	5.8	10.1	17.8
AVIATION GAS	0.0	0.0	1.1	1.1
DISTILLATE	3.3	5.2	9.9	18.4
FUEL OIL	1.4	8.5	9.0	18.9
RESIDUAL	6.0	4.1	16.4	26.5
TOTAL	96.1	82.4	344.7	523.2
US Supply Source	3.8	12.1	344.7	360.6

SOURCE: Department of Defense.

[1] CONUS = Continental United States, Hawaii is included in Pacific.

DOD's worldwide procurement, distribution, and storage system is equivalent in size to some of the largest private oil companies. We hold over $4.5 billion of petroleum products in inventory, both for peacetime use and initial wartime operations, at some 200 wholesale and many hundreds of retail storage points. During the early stages of an emergency requiring mobilization of military forces, our petroleum consumption would increase quickly. Thus, we hold a large portion of our stocks as war reserves to support the early demands of mobilization or war until resupply can be established.

Because we are such a relatively large consumer, DOD is dependent on a continuous supply of petroleum products. Our management of supply has improved, both because of the "soft" market and because of various DOD and other government policies and programs. We have reduced DOD fuel consumption by increasing fuel efficiency in systems. Now, our ability to cut consumption further during a future supply disruption is extremely limited.

Three requirements for assuring fuel supply for national security must be kept in mind: First, we must continue to support a strong and efficient domestic petroleum industry. The soft oil market and overcapacity worldwide create adverse pressures on the domestic oil exploration and production industry. Our energy policy should recognize the need for continued domestic exploration and development of energy supplies to avoid undue dependence on foreign supplies. Of course, this objective must be balanced with our goal of maximizing economic efficiency by allowing markets to determine the course of energy supply and demand.

Second, we must maintain a refining industry adequate to support national security needs. Our armed forces need petroleum products, not crude oil. In this regard, we look forward to completion of a study by the National Petroleum Council study on the domestic refining industry. This study will address the likely impact of future imports of refined oil products from new refining capacity in the Middle East and elsewhere. We are also participating in an interagency study of the trade aspects of oil product and petrochemical imports, chaired by the Office of the United States Trade Representative.

Third, we must continue to attend to energy emergency preparedness. A key measure here has been the development of a large Strategic Petroleum Reserve. The SPR not only provides over 470 million barrels of crude oil for use in times of emergency, but also can have a calming effect on markets during times of uncertainty, such as the recent attacks on tankers in the Persian Gulf. DOD recognizes the contribution that the Fiscal Year 1986 moratorium on SPR fill can make to reducing the deficit. But seen in light of emergency preparedness, fill should resume as soon as practical from a budgetary standpoint. Another important element of energy emergency preparedness is our commitment to the International Energy Program through US participation in the International Energy Agency. The IEA provides a useful forum to coordinate energy emergency preaparedness with our allies. Both bilaterally and within the IEA, the US is working on implementing last year's IEA Governing Board decision to coordinate stock drawdown among IEA member nations in the event of a supply disruption. We are also striving to convince other nations of the benefits of investing in larger strategic stocks.

Under probable emergency situations, our first response to a petroleum supply disruption would be to draw on our peacetime stocks. These stocks are small, however, equivalent to less than two months' consumption. Therefore, we would then be forced to rely on extraordinary procurement authority provided last year by the Congress. This authority allows us better to compete in the commercial marketplace by waiving various regulations and normal contracting procedures.

Furthermore, an agreement with the Department of Energy and cancellation clauses in Naval Petroleum Reserve contracts would allow DOD to claim up to 100,000 barrels per day from NPR production, to exchange for petroleum products. And, under the SPR drawdown plan, we could ask DOE to direct sales to DOD suppliers for up to 10 percent of any given drawdown volume. We recognize, however, that there could be other claimants on the limited, directed sales under the SPR drawdown plan.

If the emergency should deteriorate further, the President could invoke the Defense Production Act, which would enable DOD through the Department of Energy to impose mandatory allocation for Defense consumption. As an absolute last resort, DOD would consider drawing down war reserve stocks. Drawing on war reserves is risky in that it reduces both the readiness and sustainability of our military forces.

I hope this discussion has provided some useful information concerning our views of the relationship between energy policy and national security. I will be happy to respond to any questions.

Statement of Mr. Jeffrey A. Jones
Deputy Director, Energy Programs
Office of the Secretary of Defense
before the
Subcommittee on Agriculture and Energy Taxation
Senate Committee on Finance
June 21, 1985

Mr. Chairman and Members of the Committee:

INTRODUCTION

Thank you for the invitation to appear before the Subcommittee today to talk about the Department of Defense's views on energy security. This statement supplements Dr. Iklé's statement with additional details regarding DoD's petroleum systems and emergency management concepts. Because, as Dr. Iklé has noted, DoD is such a large purchaser of petroleum products, it has a close relationship with energy industries, and an interest in changes in the structure of the U.S. oil industry.

WHO WE ARE AND WHAT WE DO

DoD operates one of the country's larger petroleum supply systems. As Dr. Iklé's figures show, DoD's annual demand and its worldwide inventories would place us among the top 15 U.S. oil companies. The distribution system combines U.S. tankers operated by the Military Sealift Command and commercial tankers, pipeline systems, barges, trucks and rail delivery. Overseas commercial supply systems are complemented by NATO and U.S. military supply operations.

Unlike commercial industry, DoD holds large inventories needed to support the early demands of a war. But even with these inventories, the entire stock turns over twice a year on average, and many more times per year at high volume terminals. Therefore DoD shares with industry the understanding that petroleum shortages present urgent problems.

DOD'S POSITION IN THE PETROLEUM MARKET

During conditions like those presently prevailing, in which there is an abundance of petroleum and no exceptional demand for military needs, DoD is able to obtain adequate supply, with plenty of competition and good prices. During periods of supply disruption, however, DoD faces competition from private sector demand. During both slack and tight markets DoD's internal demand to sustain operations needed for military readiness is relatively inelastic. This inelasticity increases the urgency of solving DoD's supply problems when they arise. During past periods of general supply shortage, DoD has experienced difficulties obtaining oil supplies. While we do not anticipate a future shortage, our Defense mission counsels us to be cautious.

OVERVIEW OF DOD'S SUPPLY SITUATION

Like all U.S. consumers, DoD has benefitted from recent changes in petroleum markets and the supply environment. Because the Committee is already familiar with these trends, I will simply summarize what seem to be the most important indicators for national defense, starting with two positive changes.

First the development of national stockpiles and positive achievements of conservation in the major Western consuming nations have altered the significance, if not the likelihood, of a short-term disruption. Energy markets have matured and become truly international. Before 1973 most of the world's oil was controlled by western multinational companies. Now only half is so controlled. As oil exporting countries learned the oil "business" they made major commitments to economic development. This development has a price in that the developing economies urgently need the proceeds from oil sales. From DoD's viewpoint this is a positive change because it raises the penalty for export denial. The Strategic Petroleum Reserve and similar reserves of other nations raise this cost even higher. I believe it is this implicit "insurance" that has kept petroleum markets relatively calm through the five years of the Persian Gulf war.

Second the oversupply of oil has resulted in much oil being traded on a "spot" basis today, rather than on term contracts.

Changes have begun occurring in the industry structure that may or may not have defense implications. I would like to illustrate a few of these points briefly.

1. Refinery closures versus DoD supply availability. Since 1981 over 140 U.S. refineries have closed. Most of these were small business, single-plant independents or less efficient plants of larger, multiple-facility corporations. The primary cause of these closures was simple refining economics, aided by some of the effects of decontrol after 1981. During the period of these closures, however, competition to supply domestic DoD requirements for the major bulk fuels increased dramatically. During the most recent domestic procurement, the industry offered nearly four times the amount needed for some products. In 1979 DoD was short up to 20 percent for some items in some regions.

2. Refinery closures and lower utilization at others have produced unexpected benefits in some cases. In past years DoD competed with commercial demand for facilities. Many fuel terminals and even whole refineries were dedicated strictly to commercial business. Now, with commercial demand down, DoD receives not only product offers but offers of terminal and supply services from some of these facilities.

3. On the potential "down" side, DoD has experienced regional problems, such as in parts of the Southwest, where refinery losses have increased the length of our supply lines.

This change primarily increases costs in peacetime, but could add some logistics burdens in a contingency.

4. The risks associated with continued refinery losses are unknown. As the industry consolidates, the companies remaining will be stronger than the ones left behind. But at some point increased utilization of the remaining facilities will bring about a new supply-demand equilibrium in which DoD may again experience lower levels of supply availability.

5. We agree with members of the oil industry that point out that closed capacity is essentially lost capacity - especially in the short run. The capital cost and time needed to restart a closed refinery are considerable. In a supply shortage, crude oil or product needed to "prime" the system would also be harder to get and more expensive than during conditions in which the refinery was unable to survive. Only during a protracted national mobilization would it seem likely that "pickled" facilities would be revived. We, therefore, support a strong U.S. refining industry and encourage policies that lead in this direction, without, however, subsidizing inefficiency.

TAX AND TARIFF ISSUES

Secretary Herrington has explained the Administration's views of tax and tariff issues. The use of tax and tariff mechanisms to influence other policy is not a new issue. Changing specific tax or tariff provisions does not change the principle. DoD's interest in these areas is only in effects: we believe that tax and tariff policy should not discourage the development of domestic energy resources in the long run. And the "long run" consideration is important. For changes in tax or tariff law will cause short run restructuring, some of which may strengthen drilling and exploration.

One can argue extensively about which specific allowance, deduction or depreciation method provides the most public benefit, that is the most oil discovered per tax dollar. But from a security point of view, the objectives of energy tax law should be directed more toward incentives for resource development. DoD would defer to other federal agencies on the specific approaches to achieving this objective. DoD believes continued exploration of potential national energy resources is essential to maintaining a capability to support a substantial portion of our domestic energy needs from domestics sources.

Similiary U.S. tariff provisions should not discourage U.S. energy production and productivity. Nor should they protect inefficiency. This means striking a careful balance within the framework of the General Agreement on Tariff and Trade that facilitates beneficial trade, while preventing abuses. Before considering new tariff provisions, it is important to make certain that existing law is both enforceable and enforced.

IMPORTS

During the past several months DoD has heard differing viewpoints from within the industry. Since elements of the industry are the importers and others have investments in overseas export refineries, we have not heard complaints from these sectors; and in fact some of these companies testify against any new import restrictions. We have, however, heard from the Independents and some other U.S. Majors with mainly U.S. refining bases. These companies in particular have felt the impacts of reduced refining margins during the past year or two.

What the U.S. is seeing is the advent of exporting countries' building integrated companies with overseas marketing power - basically along the lines of the once unique Western multinationals. Oil, however, is rather late among U.S. manufacturing industries to experience this change. The industry that is surviving now is largely that segment that has kept up technologically, and that portion serving special markets. Among the latter are inland refineries supplying large DoD installations.

Current estimates of Middle East export refinery capacities suggest that volumes could reach about 2 million barrels per day (b/d) of gasoline and distillate products within the next few years. Other product export capacity from Latin America to China adds another 2 million b/d or so to world capacity. Spread around the world this is not a large figure. But if other net consumer nations establish barriers to these imports, the U.S. could be left to absorb a disproportionate share. Because the oil market is more than ever a collective world wide system, surpluses or shortages in one location spill over to every other location.

As a customer, DoD will benefit from the lower prices that continued surplus capacity brings. Even if the U.S. were to lose another 1 to 2 million b/d operating capacity, it would be difficult to argue that a national security threat existed. However, there are other factors to consider.

European nations have not taken coordinated action to protect national refineries. Yet they have lost about one third of their refining capacity since 1977 and must close another ten to fifteen percent before 1995 to stay at a 70 percent utilization rate. If the U.S. were facing a 45 percent industrial base loss, I believe there would be a greater consensus to intervene. DoD's only present concern might be the indirect effects of European refinery closures combined with U.S. losses in a NATO oil-sharing contingency.

The worst case security problem posed by product imports that can be described clearly would occur if the domestic refinery base shrank to a point below which Strategic Petroleum Reserve oil could not be refined at home to make up the loss of both crude oil and product import losses. DoD has no way to calculate what that level of essential capacity is, but it would seem to lie below current projections through 1990.

One aspect of industry restructuring not addressed so far is industry debt. The large increase in debt among many companies resisting hostile takeovers, or engaging in mergers, reduces their own flexibility to respond to market changes. Debt especially impairs companies' ability to finance exploration and development as well as capital equipment for plant modernization. A recent article in Platts noted that U.S. companies participate less and less frequently in overseas offshore development because of shortages of capital.

DOD'S EMERGENCY RESPONSE PLANS

Regardless of the likelihood of a supply crisis, DoD has experienced two, and it must cope with future disruptions, should they arise. Because this is of interest to the Congress, I will describe DoD emergency management concepts.

PROGRESSION OF A CRISIS

DoD typically experiences a supply shortage first by price indicators - existing contract prices begin to rise. If DoD is "on the street" for a product buy, it will begin to see responses fall short of requirements. It will also see some price effects, but as I noted above, these will be probably kept in line with general trends.

As a crisis deepens, actual product supplied will begin to fall short of demand. Depending upon the depth and breadth of the crisis, the supply shortfalls could mount quickly.

COPING WITH THE CRISIS

In the past DoD's first line of defense has been inventories. But its peacetime stocks equate to only about 2 months' demand under ideal distribution conditions. In reality, these inventories, as in industry, are meant to meet demand between typical resupply events; and many locations would be short quickly.

The second line of defense is extraordinary procurement actions. In the past, DoD had little authority to do more than increase the intensity of contracting activity. It had no way to substantially alter the contracting method in ways that might increase industry's interest in making sales to DoD. During both the 1973-1974 and 1979-1980 shortages, for example, DoD was not able to "buy" its way out of a shortage.

Because of new authority given the Secretary of Defense last year by the Congress, DoD can now attempt to obtain petroleum supplies through more responsive contracting. In a crisis neither supplier nor customer can afford the time consuming paperwork of normal fuel purchasing.

The President's authority to direct allocation of petroleum products under the Defense Production Act remains an option that would be used if other means failed. Like any allocation scheme DPA allocation has in the past and would probably in the future prove complex logistically as well as administratively. Therefore it is not a preferred option.

Last, as I noted before, DoD stores war reserves. These inventories are intended to support certain force levels for specified periods at the beginning of a conflict until a higher level of resupply can be established. Using these reserves under other conditions increases readiness risks. Therefore DoD by policy places these stocks at the end of the list of preferred options. In a crisis, when the stocks are most needed, they are also hardest to replace. Nevertheless, some use of war reserves cannot always be avoided. If the inventories must be used, we reconstitute them as quickly as possible.

RESPONSE TO PREVIOUS CRISES

In 1973 the third line of defense was the Defense Production Act, under which DoD was able to impose mandatory delivery orders. But implementation of DPA was time consuming. Problems relating to establishing new suppliers and high prices remained. In 1979 reluctance to use DPA and the lack of alternatives brought about serious inventory shortages. DoD at last called a special meeting with Oil Company executives, in which the Secretary "jawboned" them into making offers. Even in this situation special anti-trust precautions had to be observed to permit the meeting.

INITIATIVES

After 1979 DoD worked with DoE and other agencies to develop alternatives. Some of the changes in supply security that have occurred since then include:

1. Defense fuel contract form and content were simplified to reduce discouraging administrative burdens in an effort that became a model for other DoD contract simplification efforts.

2. The Strategic Petroleum Reserve was built up with the help of the Congress, DoE as executive agent and DoD as purchaser of the oil. While not set aside for DoD requirements, the Reserve clearly has major, positive implications for the overall supply security of the United States.

3. DoD and DoE concluded an agreement that DoE contracts for the sale of Naval Petroleum Reserve oil contain an emergency ten day cancellation clause, that provides DoD the oil upon its request. At this time DoD can gain access to roughly 100,000 barrels per day of crude oil which it can have refined. DoD

tested a system for exchanging NPR oil for finished products from 1981 to 1984.

4. DoD advocated, and as I noted, Congress passed legislation allowing the Secretary of Defense to waive normal procurement procedures in an emergency.

REACTING IN A FUTURE SHORTAGE

Of course the first challenge in a crisis is determining what is likely to happen before deciding the priority of one's options. In any crisis DoD would need to take some actions that would resolve the short-term inventory effects. Conceivably the most timely actions we could take would involve our new waiver authority for contracts. On the other hand, if the crisis appeared short-lived, we might have to accept the inventory effects and rebuild levels after the crisis passed.

In the long-term, similar choices would have to be made. The exchange or sale of government oil (such as NPR) for DoD products would be examined - especially in terms of timeliness. Implementing other alternatives, such as DPA allocation, would face similar tests.

Last I should mention the very real difference between a crisis that developed without any particular military implications and one that came closely connected. DoD firmly believes that the urgency of a potentially serious military situation would throw a different light on the options we would take first or recommend. Because the DoD's demand could rise quickly to three or four times its 500,000 b/d peacetime use rate, the inventory effects of a shortage could not be tolerated.

Yet, as dramatic as the supply situation could become in a defense crisis, we are equally confident that every option needed for meeting DoD's needs would receive the fullest attention.

The crisis with no or only tenuous connection to a military emergency poses the most difficult decision options. It is in this type of situation where DoD finds itself in competition with civilian demand, with less of a clear likelihood of national acceptance of using the "hard options" if they become necessary. And this situation must, to some extent, be expected.

CONCLUSION

At this point we find the data conflicting. We understand the industry's concerns over the possibilities. We recognize that many U.S. refiners have made substantial investments in modernization in attempts to keep competitive during a period of major market shifts. It is understandable that segments of the industry would feel these circumstances keenly and argue that deliberate trade and tax burdens should not be added. DoD agrees that a sound industrial base is necessary for security. But I think it is premature to conclude that current trends accurately predict the future of that industrial base.

DoD has generally benefitted from the aggregate of recent trends in the world oil market, and sees no immediate threat of adverse change. These positive trends have benefitted the nation as a whole. We have also added to our crisis response options and believe ourselves better prepared to deal with a future shortage, should it develop. But we know the energy environment will probably change, and any change brings uncertainty.

Therefore we do need to watch world oil market events during the next twelve or so months and periodically reevaluate. We also should carefully consider proposed changes to tax and tariff law to insure we neither subsidize unproductive energy industry nor significantly increase our long-run dependence upon foreign energy.

Again, I thank the Committee for the opportunity to speak to these issues and will be happy to respond to your questions.

Senator **Wallop**. On page 4 of your testimony, you talked about the assistance that we may or may not gain from the International Energy Agency. That is an area that concerns me.

There was an article in a recent issue of the Oil and Gas Journal which highlighted the fact that the Soviet energy exports in 1984 hit the record level, worth nearly $47 billion to the Soviet Treasury, which is of consequence; but as a matter of fact, their sales last year made the Soviet Union the largest gas exporter and the second-largest oil exporter behind Saudi Arabia. And the part that alarms me is the biggest gain in oil exports were to noncommunist countries, allies of ours, NATO allies—Italy, West Germany, France, Belgium, and in addition Finland.

Has the Department of Defense taken this increase in Soviet exporting activity into account in light of how this could affect not only our allies' energy requirements but our own as well, should a mobilization be required? Does this take into account the agreements under the IEA which require us to provide them with a significant portion of their needs and share our shortage?

Dr. **Ikle**. Very much so, Mr. Chairman. In the first Reagan administration we had an extensive effort going on with the participation of the Defense Department, State Department, and the National Security Council, addressing in particular the security implications for the Alliance of the Natural Gas Export Program of the Soviet Union that creates an energy dependence in Western Europe and potentially in Japan. And you know of the efforts we made in trying to persuade our allies not to subsidize credits to the Soviet Union more than they subsidized credits to themselves and to their own gas production facilities, to encourage alternative sources in Western Europe for world gas production.

We had mixed success, and we were criticized both at home and abroad, I think unfairly, for that effort. That still is, in some ways, the best place where we can put in U.S. influence and the influence of the U.S. Government, more so than on the export of petroleum and petroleum products from the Soviet Union.

But we also still have, of course, certain restrictions on advanced technology for oil exploration in the Soviet Union, where we are concerned both about technology transfer and the implications it creates on the dependence on Soviet exports, which would very badly hurt the Alliance in an emergency.

Senator **Wallop**. In light of the potential that exists for causing us severe problems, should the availability of Soviet supplies be cut off—and I would assume that that would not sort of trickle out but that we would see that rather immediately—have we had any discussions, have we considered any of the undertakings we have made to our allies with regard to the International Energy Agency? Is there something that we have in the wind that leads them to assess accountability under those circumstances?

It seems to me that we are sort of boxed by the circumstances that exist now with the obligations that we have under IEA and their increasing search for dependence upon Soviet sources of supply.

Dr. **Ilke**. Yes. But to make progress on this problem, really what you want is, to the extent possible and economically feasible, the promotion of energy from sources that would be available in an emergency. It may not help you very much if the Soviet Union should start a problem in the Persian Gulf that would lead to cessation of the flow from the Middle East, and then at the same time stop the Soviet exports to Western Europe to put on pressure, if you had merely shifted European dependence to the Middle East, because you would lose both.

So shifting to natural gas that is in the Western World is really the direction to go from that point of view.

Indeed, this aspect has to be addressed in the International Energy Agency. They have to look at potential emergencies where the supplies may be cut off.

Senator **Wallop**. Senator Bradley.

Senator **Bradley**. Thank you very much, Mr. Chairman.

Let me welcome Dr. Ikle to the committee and thank him for his continuing contribution to the debate. It is always a pleasure to have a chance to discuss any issue with him, and certainly this is one on which I think he has a great deal to offer.

In your testimony on page 3, you said, "Our energy policy should recognize the need for continued domestic exploration and development of energy supplies to avoid undue dependence on foreign supplies." In the next sentence you say, "Of course, this objective must be balanced with our goal of maximizing economic efficiency by allowing markets to determine the course of energy supply and demand."

So I would like to ask you whether you agree or disagree, with Prof. Robert Pyndik of MIT, who said in the Washington Post not so long ago, "There is no national security justification for oil and gas tax preferences. There is no good economic reason to have them. Price, not tax preferences, is more effective in stimulating production." Do you agree with that?

Dr. **Ikle**. I'm not sure. I don't recall that piece, and I'm not sure how he defines his terms here. You could of course envisage an increase in price which, from the point of view of the producer, would be tantamount in terms of profits and stimulation to tax preferences. Money is fungible, whether you save it from taxes or get it from a higher price.

Senator **Bradley**. But in the market system, it is the price that sends the signal. Right?

Dr. **Ikle**. Right.

Senator **Bradley**. Let me pose a followup question. The article goes on to point out that if we had a tariff on oil imports and the strategic petroleum reserve, those two problems, the tariff and the strategic petroleum reserve, would be more useful in protecting our energy security than would be sizable subsidies for continued production of domestic oil and gas. Do you agree with that?

Dr. **Ikle**. It might be more useful, everything else remaining the same. A tariff on oil imports, of course, would have a vast effect throughout the economy, and these effects could ripple through the economy and do other damage, increase, possibly, the deficit and undermine national security in that way.

So while the basic principle cannot be quarreled with, it is very much a question of the quantitative effects and how they would impact throughout the economy.

Senator BRADLEY. Well, do you mean that is a national security question? If oil prices have dropped $20 a barrel, and you put on an import fee the price would go back up, at most by the amount of the tariff. The industry would have additional revenue for exploration and development and there would be the right price signal out there to drill or to conserve or develop alternative energy sources. You could even take some of that money and continue to fill the SPR, which I am pleased to see that you heartily endorsed. Wouldn't that be better?

Dr. IKLE. It would depend on what it does to the overall economy to have higher oil prices. Economists tell me that the reduction in the oil price has helped improve our economy, and improving our economy increases the tax collection which reduces the deficit, which helps defense, I'm told.

Senator BRADLEY. Sometimes. Not enough, I am sorry to say now.

In the President's tax proposal, though, if you look at the tax subsidies for oil and gas, the subsidies for depletion are about $8 billion over a 5-year period, and $32 billion for intangible drilling costs over that same period. We are subsidizing production of oil and gas to the tune of $40 billion every 5 years.

Now, in your judgment would we have more energy security if we had smaller subsides to independent producers and instead used some of the money to continue filling the strategic petroleum reserve, which you have clearly stated was important and which you regretted that the administration declared a moratorium on?

Dr. IKLE. I cannot give a full answer to that question. It depends on calculations and forecasts as to whether a dollar of tax subsidy on depletion drilling, hence a dollar lost for the Treasury Department, gives you an equal increase in crude oil availability in an emergency that would arise from that dollar taken out of the Treasury and put in the SPR. It is really a question of calculations.

Senator BRADLEY. But isn't that the important point? I mean, when Treasury Secretary Baker was up here, he said that the rationale for continuing these subsidies is energy security. So I would have assumed that somebody would have already made the calculations and would be able to share them with this committee.

But the problem is, if there was a disruption, you would need the oil in a hurry. But you don't get the oil in a hurry if you are just drilling; the only way to get the oil in a hurry is if you have got it stockpiled. So isn't it better to have more stockpiled that you can get in a hurry, if your fear is energy security and disruption?

Dr. IKLE. Not quite.

Senator BRADLEY. With an oil import fee and higher returns for domestic production?

Dr. IKLE. I will first try to not answer your question but kind of give you the structure, where we don't have the figures or at least I don't have them, on whether a dollar taken out of the Treasury to put into these tax allowances for drilling and maintaining our production capability gets you more crude oil in the United States than the dollar spent on the SPR.

Senator BRADLEY. But that is not the issue.

Dr. IKLE. And that was worked out by the Department of Energy. I assume the answer is you get more. Then you put in the initial qualification here that, if it is in SPR you get the crude out faster, much faster, than you would get it from a well-maintained production capability in the United States.

But we don't only have to look at the contingency where what we can get quickly is important; we also may have a drawn-out emergency that could last 1 year, 2 years, or more, and then the additional crude that you would get as a result of maintaining a domestic production capability, with various measures including these tax incentives, may buy you more than having had some quick additional barrels in the SPR.

Senator **Bradley**. Well, if you hypothesize a 1- to 2-year disruption of sizable proportions at the same time you are advocating strong support of the IEA, what you would be telling our producers is that they would be producing and sending the oil to our allies around the world who experience a 7-percent shortfall.

Dr. **Ikle**. Again, that depends on the contingency and the emergency. In our national security planning we have to look at many alternative emergencies and crisis situations. In some, our allies would be completely at peace but may lose some of their vital imports, and the IEA agreement would be operating; but there are other contingencies that we have to look at.

Senator **Wallop**. What I am going to do now is to put us on time.

Senator **Bradley**. I guess the point I am trying to make is, you have got a pot of money at the Federal level that says energy, and you define the problem as "what do we do if we lose oil and have a disruption?" as you have defined it. What is the best way to spend that pot of money? Is it to continue to subsidize domestic oil production through the subsidy route as opposed to the price route, or is it to buy oil and put it in stockpile? Which of those better prepares you for the problem that you have defined, which is the oil supply disruption?

Dr. **Ikle**. Simply put, the first gives you more crude in the United States for a long drawn-out requirement than putting the money in the SPR or the SPR gets the more quickly-available crude. And to repeat myself, we really have to look at both contingencies and make an allocation among the two.

Senator **Bradley**. Thank you.

Senator **Wallop**. Senator Long.

Senator **Long**. When you are talking about what you have in the stockpile, it's based on your experience where you had to look at the same type of problem. But doesn't it usually work out that you just can't afford to draw on those stockpiles to feed consumer demand in time of emergency, because you don't know how long the emergency is going to last? Didn't we have to take that into account the last time we had an energy emergency, during the Iran crisis? How long could you keep the country going full blast operating out of the stockpile?

Dr. **Ikle**. Only the stockpile?

Senator **Long**. What is your best estimation?

Dr. **Ikle**. Mr. Jones.

Mr. **Jones**. Senator Long, it would depend on what was cut off. If you cut off just Persian Gulf imports, it would last over 1 year—again, depending on which exports. If you are talking about all imports, considerably less; over 100 days though, in either case.

Senator LONG. Well, let's just assume that you had the situation where not only was the Persian Gulf denied to you, but because the fact that is denied it means that all the other people come in saying that you have to share with them. It is easy to foresee a situation where you could get less than half of what you are getting off the world market. Is that correct?

Dr. IKLE. Senator Long, we do import about half from the hemisphere and half from outside the hemisphere, and of course we very much like to anticipate that in almost all conceivable emergencies the half that comes from our hemisphere would be still available.

Senator LONG. I didn't know you had done this—and in some ways I am dismayed about it, but I can understand why it is done. We have this agreement with these other energy-consuming countries that we will share with them, don't we? We will share the burden? So, looking strictly at the United States, if we wanted to we could say, "Let's make the deal where we can assure ourselves that we can get Mexican oil and we can get Canadian oil, and we can get Venezuelan oil when we need it." I think, frankly, that by playing a hard hand right now we could get those deals with those countries. Now, if we did that, we would have just about enough to take care of our needs, wouldn't we?

Dr. IKLE. Your question is, if all the exports from the hemisphere went into the United States?

Senator LONG. If we were shut off from the Persian Gulf and Nigeria, for example, we still would be able to get enough, wouldn't we, to just about provide our needs in this country?

Dr. IKLE. Yes, I believe so. The exports from this hemisphere, even if they were all diverted to the United States, would make up for those imports we would lose—right, Mr. Jones?

Mr. JONES. Yes.

Senator LONG. Well, we could live within what we could get from the Western Hemisphere, I believe. But the heck of it is that if the Persian Gulf gets shut off, all Europe is going to demand of us that we share what we have with them, aren't they? I mean, at least they are going to demand that we share those Venezuelan reserves and those Mexican reserves, aren't they? Isn't that right?

Dr. IKLE. The IEA Agreement provides a mechanism for coping against such an emergency, an alliance, to minimize the adverse impact on the alliance as a whole of an oil emergency.

You could also argue, of course, that our Department of Defense needs would be much less if you didn't have alliances. It is the alliance commitments, of course, which are important to our security and our well-being. And meeting those puts a heavy burden on our defense requirements, and it also puts a certain burden on our petroleum arrangements.

Senator LONG. Well, the point I am trying to make here is, if you just look at a situation that is reasonably foreseeable, I should think that it is easy enough to see that you could find yourself in a situation where you get cut back a lot more than just what you are now getting out of the Persian Gulf. That is what I am talking about, a great deal larger cutback than that. If the Persian Gulf oil gets shut off to you and meanwhile all your European allies have a right to call on you—that agreement I think requires you to cooperate with them in making some of these Western Hemisphere supplies available to them if the Persian Gulf is not available to them, does it not?

Dr. **Ikle**. The agreement is to equalize the shortfall from such an emergency, correct.

Senator **Long**. That's correct. And the last time we had an emergency we had the same kind of complaint in the United States—how we could be in such bad shape when we were producing energy, and the other countries who weren't producing it were getting by pretty well, all things considered. The answer was because we had an obligation to help consider everybody else's problems as well.

Now, when you take oil out of the stockpile, do you need to have the capacity to refine the oil that is coming out of the stockpiles as well as the oil that you are producing domestically?

Dr. **Ikle**. Yes, we do indeed.

Senator **Long**. You know that if you can't get Saudi Arabian oil, for example, you are not going to be able to get Saudi Arabian gasoline either; so you need your own refineries to refine it.

Thank you.

Senator **Wallop**. Fred, thank you very much. I am going to suggest that the committee members feel free to submit questions to you on matters of national security if they have them. I appreciate your taking time to come down here this morning to be with us.

Dr. **Ikle**. Thank you, Mr. Chairman.

[The questions follow:]

No questions for the record have been received as of July 9, 1985.

Senator **Wallop**. The next witness is the Honorable Roger Mentz, Deputy Assistant Secretary for Tax Policy, from the Treasury Department.

STATEMENT OF THE HONORABLE ROGER MENTZ, DEPUTY ASSISTANT SECRETARY FOR TAX POLICY, DEPARTMENT OF THE TREASURY, WASHINGTON, DC

Secretary **Mentz**. Good morning, Mr. Chairman. Good morning, Senator Long. Good morning, Senator Bradley.

It is a pleasure to be here this morning on behalf of the Treasury to testify on the subject of this hearing, the effect of the tax law provisions on energy.

I congratulate you for convening this hearing on a very important subject, a subject that indeed touches many of the aspects of the President's tax reform proposal that is pending before Congress.

I would like to associate myself with the remarks of Secretary Herrington. Indeed, he made the Treasury Department's case so persuasively that I almost wonder if there is very much more for me to say.

What I would like to do this morning would be, of course, to submit my written statement for the record. And with your position, Mr. Chairman, I would just like to kind of hit the high spots.

Senator **Wallop**. By all means, Mr. Secretary. Thank you.

Secretary **Mentz**. Thank you.

Current tax law has many provisions that specifically affect the extractive industries. You have already heard a discussion of many of them this morning. In addition, because the energy and minerals industries are so highly capital-intensive and compete for funds in the securities markets, they also are affected by other provisions in the tax law that are of more general application. And, more broadly, the overall level of tax rates will affect individual after-tax income and therefore demand for certain of the products of these industries.

So, really, the scope of this hearing is very broad. I will discuss primarily the proposals that relate directly to energy, but I would be pleased to take any questions on any other aspects of the proposal.

The general philosophy of the tax reform proposals is to encourage investments in energy industries by lowering tax rates and providing generous capital cost recovery allowances which would be indexed for inflation.

The notion is to recognize the importance of maintaining a healthy domestic energy and minerals industry, and for that reason the proposal retains some but not all of the tax benefits that are currently available to investors in the extractive industries.

Furthermore, the general economic improvments, improvements in productivity, that may be expected to result from adoption of the President's proposals such as a reduction in interest rates, for example, or an increase in economic growth should benefit all industries, including the energy industry.

I will discuss the President's proposals, specifically that relate to energy sources in the order of their relative importance. But I would like you to bear in mind, and I would like to stress, that the impact of these proposals cannot be divorced from the overall beneficial impact that tax reform will have on the Nation's economy as a whole.

Starting with oil and gas, which accounts for approximately 67 percent of the Nation's energy supplies, you all are quite familiar with current taxation of oil and gas. Let me just outline very briefly the President's proposals. They are specifically designed to encourage domestic exploration and development. As Senator Bradley has pointed out in his earlier questioning, that is a departure from the philosophy that runs through most of the tax reform proposals, of total investment neutrality among different categories of assets. There is no question that this is an incentive that was carefully directed for national security reasons.

The current law would be retained with respect to intangible drilling costs. That means that dry hole expenses will be fully deductible for everyone. For independent producers, intangible drilling costs on successful wells would continue to be fully deductible, and for integrated oil companies, there would be 80 percent of current deduction, and the remaining 20 percent would be subject to the 36-month amortization, which is current law.

There is a change on intangible drilling costs relating to the minimum tax. Intangible drilling costs for productive wells would become a tax preference. Eight percent of the intangible drilling cost would be an item of tax preference for both the corporate alternative minimum tax—the new corporate alternative minimum tax—and the individual minimum tax. That is a change, in that income from oil and gas activities would not be available to offset that tax preference. So someone who has intangible drilling costs and also has income from oil and gas activity would not be able to effectively zero out his or its minimum tax.

We discussed percentage depletion. Percentage depletion would be phased out over 5 years. Of course, it is only available right now for independent producers. Since 1975, the majors don't get percentage depletion. For independent producers, the 1,000 barrels a day for oil, and the equivalent for natural gas, would be phased out on a straight-line basis over 5 years, except with respect to stripper oil and gas production. For stripper oil and gas production the percentage depletion would be continued for independent producers but not for royalty owners. Royalty owners would also be phased out of the percentage depletion.

Much of the investment in oil and gas, capital investment, is in tangible assets which are subject to investment credit and the accelerated cost recovery system under current law. As you know, the general proposal is to repeal the investment credit and replace ACRS with a new system of depreciation called capital cost recovery, which would be indexed for inflation. The oil and gas equipment that was previously eligible for 5-year ACRS would be treated as class 3 assets in CCRS, which provides a slightly more favorable depreciation structure under a reasonable modest inflation assumption, slightly more favorable than the 5-year ACRS—not including investment credit, but just comparing ACRS to CCRS, it is slightly more favorable for equipment used in oil and gas exploration. And that class-3 choice was a very deliberate choice, taking into account the loss of investment credit on such equipment.

As Secretary Herrington mentioned, the conclusion drawn by the Department of Energy is that these proposals, taken in total, should result in less than a 1-percent reduction in domestic oil and gas production. And the decisions here that do deviate somewhat from the philosophy of getting rid of all exemptions, credits, subsidies, and so forth is very definitely related to the national security of our country.

The concern is, what do we do if the Arabs cut off the flow of oil? Senator Long points out, not only do we have a problem right here in America, but we are going to have allies who are also going to need a supply of petroleum, of energy. So that is the underpinnings of that decision.

I will move on to coal. I would just like to comment that I am somewhat familiar with the coal industry on a personal basis, in that on my mother's side my entire family comes from the anthracite region in Pennsylvania, and I am well aware of the economic problems. I have had cousins who worked in coal mines, either ones that are operated by a company or, in one particular case, I had a cousin who would go to an abandoned mine with a pick and a wheelbarrow and would pick out coal and sell it and make 50 or 60 bucks a week, and that is the way he would support himself. So I do have sort of a personal interest in the coal area.

The President's proposals on coal? Again, they have been pretty well explained this morning. Coal represents about 24–25 percent of the Nation's energy, so coal is a very significant aspect of our overall energy supply.

We start off with leaving current law on the continued expensing of hard mineral exploration and development costs. It is 100 percent for noncorporate producers. Current law provides 80 percent expensing for corporate producers with the balance being depreciated as 5-year ACRS. This is, in effect, a departure from the philosophy of 'you capitalize all of your capital expenditures in a perfect tax system.' It certainly could be regarded as a subsidy to the coal industry, but one man's subsidy is another man's necessity. But I do want to point out that there is this provision for coal that is not allowed for many other forms of capital investment.

The percentage depletion would be phased out over 5 years, going to cost depletion. And cost depletion is indexed for inflation under this proposal.

Capital gain treatment would also be phased out for coal royalty income. There is a similar provision for timber, and also iron ore.

Mining equipment is tangible equipment, that is presently subject to ACRS and investment credit, would be classified as class-3 depreciable property, the same as for the oil and gas equipment. This, again, provides somewhat a more favorable benefit than the 5-year ACRS—again, a conscious decision to take the particular energy needs of our country into account.

In terms of the tax preference for exploration and development expenses, they would be included in the corporate minimum tax, alternative minimum tax, which is being proposed, and so would percentage depletion in excess of cost depletion, so that as you are going through the phaseout, when you still have some percentage depletion, you have it included inthe minimum tax base. It would also be included in the personal minimum tax base as well.

On electric power. Electric power is largely produced from coal, gas, and oil. Nuclear power supplies about 5 percent of the Nation's energy today. Electric power generating equipment and transmission equipment is extremely capital intensive; it is the most capital-intensive industry in America today.

Under current law we have a series of categories of ACRS classes under which equipment may fit, and they fit in a 5-year ACRS, into a 10, or in a 15, depending on the status of the regulation of the industry. Also, electric-generating equipment qualifies for the investment credit under current law, subject to the normalization requirements.

Under the President's proposal, investment credit would be repealed for all equipment. Investment in depreciable property would be depreciated using the capital cost recovery system, and that would generally mean classes 4 and 5 for electric-generating equipment. So we have it in a longer stretchout than we do for the oil and gas and the coal equipment.

However, we do have the indexation for inflation, and because of that, the depreciation system is somewhat more beneficial than ACRS, at least 15-year ACRS for electric generating equipment.

One other aspect of the electric power industry that I would like to draw your attention to. You may well be aware of it anyway, but there is a substantial amount of tax-exempt financing that is utilized to finance electric generating facilities, even industrial development bonds to finance pollution-control equipment, which of course is a large part of the cost, particularly the coal-fired electric generating equipment. That is a large part of their capital costs. That is eligible for tax-exempt financing under current law. And for municipally-owned and operated electric generating equipment, that is almost exclusively financed with tax-exempt bonds, and those financing frequently involve power sales contracts by the municipality or the governmental entity to industrial users—in other words, a power and light company may well buy 20 percent of the output of an electric generating facility, and those bonds used to finance the facility are tax exempt under current law. The President's proposal would basically do away with the private-purpose tax-exempt bond financing, and for that reason there would clearly be an impact—perhaps it is a little more subtle impact, but nevertheless a real one.

Nevertheless, as was noted by Secretary Herrington, there would be an overall benefit from these proposals on the whole for the electric generating industry. And the reason is, primarily, the reduction in rates.

On renewable and alternative sources, we've got sort of a hodgepodge of tax benefits here. Many of them are scheduled to expire at the end of 1985. The energy investment credits would expire at the end of 1985. And these credits for solar, wind, geothermal, and ocean thermal property, and so on, have been recently the subject of some tax shelter activity. You can produce a very, very attractive tax shelter package with a 15-percent energy credit plus the regular investment credit, and I think California allows something like a 25-percent credit. So you put up what in the jargon is known as a 'wind farm' in California, and you wind up with overflowing credits, and the result is a very, very active tax shelter industry, one that is purely the creature of these energy subsidies.

These forms of energy, while they are growing and becoming an important element of our overall energy production, they represent about 4 percent of energy production under current circumstances, and I think our perspective there, the President's perspective, is that many of these that are expiring at the end of this year should expire. Some others, such as the production tax credit, which allows a tax credit currently in the neighborhood of about $4 a barrel for certain qualifying fuels, goes until the year 2001. We would be recommending that that be cut back.

Again, these recommendations do not reflect any inclination to oppose this type of energy production but rather that the free market will do it best, and as the price of energy increases these have already gotten sort of a foothold, and we believe they will continue once the price of energy gets higher.

There is a lot more I could say about those renewable sources, but I think in the interest of time I will pass it up.

I would just like to say, in conclusion, that the primary purpose of the President's proposals on energy is to encourage, first of all, investment in economic growth throughout the economy generally, and that would be done by reducing tax rates; that is the fundamental cornerstone of the tax reform proposals, and of course broadening the tax base as well as reducing the rates. But nevertheless, a policy decision was reached, and it was reached by the

President, that certain incentives were needed to continue for primarily national security reasons the production of particularly oil and natural gas and perhaps to a somewhat lesser extent coal.

Those proposals have been critized by both sides. The oil and gas folks testifying over at the Ways and Means Committee the other day were very critical. Just about all except one said they thought it would result in a disaster for the oil and gas industry. The other side of it is, you have criticisms that it is inconsistent with the free market approach, and why not just let the market do the job?

These factors were balanced—as I said, this was a very, very important part of the President's proposal. The decision was really agonized over by the President, and he has made it; that's the way he comes out on it.

The hope would be that, although we do have these particular deviations from more or less a free-market approach, that they would not and should not be used to replace market forces in the allocation of resources, trying to encourage the search for the Nation's oil, gas, and mineral resources. And I want to emphasize that the key on oil and gas is searching for them; it is just not that easy to find oil and gas. And that is particularly why the incentive is provided.

But stressing the broader implication, that while perhaps you could have greater incentives in the energy industries through more direct incentives, you then would have perhaps too great a distortion, and that would probably result in less overall economic growth and less efficiency for the entire American economy.

One closing remark, Mr. Chairman, if I might. We get a lot of folks coming in to see us on all kinds of issues—we've got the insurance folks, the bankers, the people on fringe benefits. There are a lot of people beating down our doors, as I am sure they are on your doors, and they all say, "You shouldn't tax us. We like the rates; we like the lower rates. We like the benefits in this proposal. But gee, you shouldn't come to us for revenue; you ought to get it somewhere else. There are easier places to get it."

We ask them, "Well, do you have any suggestions," and many of them say, "Well, how about energy?" So I am sure you are getting the same question, but that is a very common question we find we are asked.

Speaking of questions, I would be pleased to take those that you have.

[Mr. Mentz's written testimony follows:]

For Release Upon Delivery
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STATEMENT OF
J. ROGER MENTZ
DEPUTY ASSISTANT SECRETARY (TAX POLICY)
DEPARTMENT OF THE TREASURY
BEFORE THE SUBCOMMITTEE
ON ENERGY AND AGRICULTURAL TAXATION
OF THE SENATE COMMITTEE ON FINANCE

Mr. Chairman and Members of the Subcommittee:

I am pleased to have the opportunity to discuss with you the impact of our federal tax laws on the implementation of domestic energy policy.

Current tax law contains many provisions specifically relating to the extractive industries. In addition, the energy and minerals industries are highly capital intensive, and compete for funds in the securities markets, and are thus also affected by those tax laws which relate to the taxation of alternative investments. And, of course, the overall level of tax rates also affects individual aftertax disposable income, and thus demand for the products of these industries, as well as the specific tax burdens faced by each company. Accordingly, the scope of this hearing is very broad, cutting across much of the business-oriented provisions of our tax code.

No review of the impact of the tax laws on the energy sector can ignore the President's proposal on tax reform. The President's Proposal on tax reform generally seeks to encourage investment in all industries by lowering tax rates and by providing a generous capital cost recovery system which allows adjustment for inflation. The proposal also recognizes the importance of maintaining a healthy domestic energy and minerals industry. For this reason the proposal maintains some, but not all, of the tax benefits currently available to investors in the extractive industries. Moreover, general economic effects which may be expected to result from its adoption, such as a reduction in interest rates and an increase in the rate of economic growth, should benefit all industries, including the extractive industries.

In the balance of my testimony, I will describe the current tax law and the changes suggested in the President's tax reform proposal. For convenience, I will discuss each of the several energy and mineral industries separately, in the order of their relative importance to the nation's energy use. Although I shall focus on those proposals which directly affect the extractive industries, I again want to stress that the impact cannot be divorced from the overall beneficial economic implications of these proposals.

I. Oil and Gas.

Oil and gas currently supplies approximately 67% of the nation's energy needs. Under current law, the treatment of investment in oil and gas extraction depends upon the nature of the expenditure. Lease acquisition costs and most geological and geophysical costs are required to be capitalized as depletable assets. These costs are recovered though cost or percentage depletion (if allowed). Investment in lease equipment and drilling rigs, as well as tangible drilling costs (which include the cost of casing and wellhead) are treated as five year ACRS depreciable property, and qualify for the investment tax credit. Intangible drilling costs, which include the costs of preparing the site for drilling, and the cost of labor, fuel, and materials used in the drilling process and in the installation of the casing and wellhead, may generally be expensed in the year incurred. Integrated oil companies must, however, capitalize 20% of the intangible drilling costs on successful wells. These capitalized costs may be amortized over 36 months.

Under current law, independent producers and royalty owners may claim percentage depletion with respect to 1,000 barrels per day of oil production or the equivalent amount of gas production. Integrated companies are not entitled to claim percentage depletion. Percentage depletion is a deduction based, not on the actual depletable costs incurred, but rather on the gross income from production, calculated on a property-by-property basis. The deduction is equal to fifteen percent of the gross income, limited however to 50% of the taxable income from the property, and further limited to 65% of the taxpayer's taxable income. Unlike cost depletion, or all other methods of capital recovery, percentage depletion may be claimed even after all the depletable costs have been written off.

The tax treatment of oil and gas extraction income under the President's proposal is predicated on the desire to encourage domestic exploration and development, while at the same time reducing those special tax benefits which primarily serve to reward owners of the richer or more prolific mineral deposits. In particular, the President's tax reform proposals call for:

1. The continued expensing of intangible drilling costs (including dry hole costs) for independent producers, and the current law expensing of 80% of such costs, with a 36 month amortization of the balance, for integrated oil companies. The intangible drilling cost tax preference is tightened by removing the net income offset, as I will describe in greater detail. In addition it is proposed that this tax preference also apply to the corporate alternative minimum tax.

2. The phase out of percentage depletion over five years, except for stripper oil and gas production by independent producers (but not royalty owners). Depletable assets will be eligible for cost depletion, adjusted for inflation.

3. The continued expensing of qualified tertiary injectant expenses.

4. The use of an inflation-adjusted capital cost recovery system (CCRS) depreciation, in place of ACRS depreciation for depreciable equipment. Oil and gas equipment would be treated as class 3 assets, which is slightly more favorable, under expected inflation rates, than five year ACRS recovery. For example, at an assumed 5% inflation rate the net present value of the CCRS deductions are approximately 92% of the cost of the asset, whereas the present value of the ACRS deductions are approximately 84% of the cost. The investment tax credit would, however, be repealed for all assets, including those employed in the oil and gas business.

Treasury and the Department of Energy estimate that these proposals, together with the lower tax rates and other aspects of the President's proposal, should result in less than a one percent reduction in domestic oil and gas production. Since only independent producers (and royalty owners) may currently claim percentage depletion, only such producers would be adversely affected by its repeal. Because percentage depletion is to be retained for stripper wells, even the impact on domestic oil and gas production by independent producers should be quite modest.

Some may argue against the repeal of percentage depletion by noting that any reduction in existing tax benefits would reduce the amount of investment which might be made in oil and gas drilling. ~~In a~~ sense this is true in that any tax payment would reduce the amount of funds any person in the oil business would otherwise be able to reinvest. However, there has been a dramatic decline in oil and gas investment due to falling oil prices even under current tax policy, which suggests that petroleum economics, rather than cash flow, is a primary determinant of industry investment. In addition, royalty owners currently claim approximately half of the total oil and gas percentage depletion, and approximately another ten percent is claimed by independent producers with repect to stripper oil production, for which percentage depletion may continue to be claimed under the President's proposal. Thus the maximum loss in reinvestment by those engaged in oil production resulting from the repeal of percentage depletion is at most only forty percent of the total amount claimed.

Percentage depletion does provide some incentive for exploration and development. However, because it is directly related to gross income, percentage depletion tends to favor owners of more productive wells, and its benefit also increases with the price of oil. Thus, allowing percentage depletion to owners of the most successful wells, who do not need such incentives to develop their properties, cannot be justified. The loss of percentage depletion would have the most adverse impact on the more marginal wells -- those producing less than 10 barrels of oil per day -- and therefore might cause premature abandonment of such stripper wells (and once abandoned, the remaining reserves are essentially lost). To avoid this loss, the President's proposal allows percentage depletion to continue to be claimed by independent producers with respect to production from such wells.

Others may argue that the President's proposal is "too easy" on oil and gas producers. While it is true that allowing expensing of intangible drilling costs does treat such investment differently from the treatment of investment in depreciable assets, it is also true that capitalization of such costs would significantly alter the economics of a drilling venture. Fewer exploratory ventures would be undertaken, and the number of dry holes which may be tolerated before abandonment of the project would be reduced. As a result, the search for new domestic oil reserves would decline, and ultimately so too would domestic oil and gas production. This would leave the nation more vulnerable to possible foreign supply disruptions.

The President's proposal is also predicated on the notion that all citizens should pay their fair share of tax. For this reason the intangible drilling cost tax preference has been modified. Under current law this preference item is reduced by the taxpayer's net oil and gas income, with the result that those producers with sufficient extraction income could entirely wipe out this tax preference item. This net oil and gas income offset would be eliminated in the President's proposals. The tax preference instead would be the difference between the amount of intangible drilling cost on successful wells which may be expensed and the present value of the deductions which may be claimed by treating such cost as CCRS class 3 depreciable property (which is how tangible drilling costs are treated under the proposal). As noted earlier, the present value of the CCRS class 3 deductions is 92% of the amount expensed, leading to the proposed 8% intangible drilling cost tax preference. Moreover, it is proposed that this tax preference item also apply to the alternative corporate minimum tax.

II. Coal

Coal supplies approximately 24% of the nation's energy needs. Current law taxation of investment in coal and other hard mineral extraction depends upon the nature of the expenditure. Exploration and development expenditures may generally be expensed. In the case of a corporation, 20% of these costs must be capitalized and recovered as five year ACRS depreciable property. The expensed exploration costs (but not the expensed development costs) must be recaptured when production begins, generally by reducing the amount of depletion which may be claimed. The excess of the exploration and development costs expensed over the deduction which would have been claimed had such costs been capitalized and amortized over 10 years is a tax preference item for the noncorporate alternative minimum tax.

Percentage depletion may currently be claimed by all taxpayers with an economic interest in the property. The percentage of gross income from mining which is allowed for coal is 10%, and is further subject to a 50% net income limitation. Corporate taxpayers must reduce the percentage depletion claimed in excess of their basis in the property by 15%. Taxpayers receiving coal royalty income may generally claim long term capital gain treatment for such income. Such taxpayers cannot, however, also claim percentage depletion with respect to such income.

Consistent with the objective of maintaining incentives for undertaking risky coal exploration and development within the context of a more neutral tax treatment of all business activity, the President's proposal calls for:

1. The continued expensing of hard mineral exploration and development costs by non-corporate producers, and the current law expensing of 80% of these costs for corporate producers (with the balance of these costs depreciated as five year ACRS property).

2. The phase-out of percentage depletion over five years. Cost depletion, adjusted for inflation, would be used instead.

3. The phase-out of capital gain treatment of coal royalty income.

4. The treatment of mining equipment as CCRS class 3 depreciable property. As noted, such treatment is more somewhat more favorable than that provided by five year ACRS recovery.

5. The inclusion of the current law mineral exploration and development expense tax preference (the excess of the amount expensed over the amount that would be claimed if amortized over 10 years) for the proposed corporate alternative minimum tax.

Some may argue that the loss of percentage depletion may also result in the abandonment of some marginal mines, and thus percentage depletion should be allowed for such mines, just as it is proposed to continue percentage depletion for stripper well production. The Administration is, of course, aware of the depressed state of much of the mining industry, and for this reason has proposed a phase-out of percentage depletion. Nevertheless, there are several reasons for not proposing continuation of percentage depletion. First, because of the net income limitation, it is more difficult to identify a class of mines whose production currently qualifies for percentage depletion and which would likely be abandoned if percentage depletion were lost. Second, whereas premature abandonment of stripper wells generally leads to the permanent abandonment of the reserves, those mines which may be shut down can more readily be reopened when economic conditions improve.

III. Electric Power

Electricity is largely produced from coal, gas, and oil. Nuclear power supplies about 5% of the nation's energy needs. Under current law, some electric generating equipment qualifies as five year ACRS property. Other investment, which is treated as public utility property with a class life of not more than 25 years, is treated as 10 year ACRS property, while investment in public utility property with a class life greater than 25 years is treated as 15 year ACRS property. In general, all such investment qualifies for the investment tax credit. In order to encourage state regulators to allow the benefits of accelerated depreciation and tax credits to be passed on to the stockholders, and thus allow regulated utilities to compete in the market for funds, certain "normalization" requirements apply.

Under the President's proposal, the investment tax credit would be repealed, and investment in depreciable property would be depreciated using the Capital Cost Recovery System (CCRS). Public utility property (other than autos, trucks, computers, etc., which are treated as CCRS class 1 and 2 property) would generally be treated as class 4 or 5 property. Because of the indexation for inflation, such treatment is somewhat more favorable than the corresponding ACRS treatment (excluding the effect of the loss of the investment tax credit). Corresponding normalization rules are also proposed.

Under current tax law, electric generating facilities are frequently financed, at least in part, through the use of tax-exempt bonds even where the facility is privately owned. In general, the President's proposal would deny tax exemption to any obligation issued by a state or local government where more than one percent of the proceeds were used directly or indirectly by any nongovernmental person. Thus, if power sales contracts to non-exempt persons exceed 1%, the interest would be taxable. In essence, this proposal would prevent the issuance of tax-exempt bonds to finance any facility other than facilities to be owned and operated by the state or local governmental unit. Thus, public roads, parks, and government office buildings could continue to be financed by tax-exempt bonds, but bonds could no longer be issued on a tax-exempt basis to finance facilities intended for private use.

IV. Renewable and Alternative Energy Sources

Hydropower, solar, wind, and other sources of energy provide about 4% of the nation's energy needs. Since 1978 Congress has adopted a number of tax measures designed to provide incentives for individuals and businesses to conserve energy and to encourage the development of renewable and alternative energy sources. These incentives were deemed necessary because oil and gas price controls understated the replacement cost of those energy sources. Because of price controls, consumers did not have the incentive to invest in energy conservation. Furthermore, low oil and gas prices discouraged investment in alternative fuels. The energy tax incentives were enacted as temporary provisions that were designed to provide a bridge between the period in which energy prices were controlled and the period in which energy prices would be set in a free marketplace.

Under current law, three major categories of tax incentives remain temporarily available for businesses:

1. Energy Investment Tax Credits. Solar, wind, geothermal property and ocean thermal property qualify for a 15 percent energy investment tax credit in addition to the regular ITC. Certain hydroelectric generating property qualifies for an 11 percent credit. Qualified intercity buses and biomass property are eligible for a ten percent energy credit. These energy credits terminate on December 31, 1985.

A ten percent energy investment tax credit was available for certain other types of energy property but this credit generally expired on December 31, 1982. However, if such energy property qualifies under "affirmative commitment" rules, the credit continues to be available until December 31, 1990. Under these rules, projects requiring two or more years for completion will continue to be eligible if (a) all engineering studies were completed and all necessary permits filed before January 1, 1983, (b) binding contracts for 50 percent of specially designed equipment are entered into before 1986, and (c) the project is completed and placed in service before 1991. In addition, in the case of hydroelectric generating property, the credit is available through December 31, 1988, if an application has been filed with the Federal Energy Regulatory Commission before January 1, 1986.

2. Production Tax Credits. A credit of up to $3 per barrel of oil equivalent, adjusted for inflation, is available for certain qualifying fuels. In general, the credit is available for qualifying fuels produced from facilities placed in service after December 31, 1979, and before January 1, 1990, and sold after December 31, 1979, and before January 1, 2001. The credit phases out as the average wellhead price of domestic crude oil rises from $23.50 to $29.50 per barrel, adjusted for inflation. The maximum credit and the phaseout range are adjusted for inflation. Qualifying fuels include (a) oil produced from shale and tar sands, (b) gas produced from geopressured brine, Devonian shale, coal seams, a tight formation, or biomass, (c) synthetic fuels produced from coal, (d) fuel from qualified processed wood, and (e) steam from solid agricultural byproducts.

3. Alcohol Fuels Credit and Excise Tax Exemptions.

a) Alcohol fuels mixtures. Present law provides a six cents per gallon exemption from the nine cents excise tax on gasoline and a similar six cents per gallon exemption from the 15 cents diesel fuel excise tax if the taxable products are blended in a mixture with at least ten percent alcohol ("gasohol"). The term alcohol is defined to include only alcohol derived from a source other than petroleum, natural gas, or coal (including lignite). The provision terminates after December 31, 1992.

b) Alcohol fuels. Present law provides a nine cents per gallon exemption from the excise tax on special motor fuels for a fuel consisting of at least 85 percent alcohol derived from a source other than petroleum or natural gas and a four and one-half cents per gallon exemption if the source is natural gas. The provision terminates after December 31, 1992.

c) Alcohol production credit. A 60 cents per gallon income tax credit is provided for alcohol used in gasohol mixtures with gasoline, diesel fuel, and special motor fuels. A like credit is allowed for alcohol used as a fuel other than in a qualified fuels mixture. A lesser credit of 45 cents per gallon is provided for alcohol of at least 150 proof but less than 190 proof. The term alcohol is defined to include only alcohol derived from a source other than petroleum, natural gas, or coal (including lignite). This credit terminates on December 31, 1992, and may be carried forward for 15 years, but not to a tax year beginning after December 31, 1994. If a production credit is claimed with respect to alcohol, the exemption from the gasoline and special fuels excise taxes is not allowed.

d) Taxicabs refund. A four cents per gallon exemption from the excise tax on gasoline, diesel fuel and special motor fuels is provided if used in certain taxicabs that are rated at above-average fuel economy. The exemption expires on September 30, 1985.

In addition, under current law there are two categories of residential energy credits:

1. Conservation credits. A 15 percent credit is available to individuals for the first $2,000 of expenditures for certain energy conservation equipment, such as insulation or storm windows and doors, for a maximum credit of $300.

2. Renewable energy credits. A 40 percent credit is available to indivduals for the first $10,000 of expenditures for solar, wind or geothermal energy property, for a maximum credit of $4,000.

To be eligible for the residential energy tax credits, expenditures must be with respect to the taxpayer's principal residence. In the case of the residential conservation credits the residence must have been in use before April 20, 1978. The credits expire on December 31, 1985. Unused credits may be carried over through 1987.

Under the President's proposals for tax reform most of these credits would be allowed to terminate as called for under current law. In the case of the production credits, however, the period of availability would be shortened from a current law termination date of January 1, 2001 to January 1, 1990.

Since the enactment of these subsidies, world oil and gas supply conditions have eased. Domestic crude oil prices have been decontrolled and natural gas prices have been partially decontrolled. Individuals and businesses have succeeded in reducing their energy usage. Even if it were felt that conservation and the development of alternative fuels should be encouraged, energy tax credits are not particularly effective for such purpose. Subsidies provided for alternative fuel are significantly in excess of the price that should be paid for replacement of crude oil. For example, with an alcohol fuel production credit of 60 cents per gallon, the Federal government is paying a subsidy of $25.20 (in addition to the price paid by the consumer) in order to save a barrel of oil currently valued at under $30.

The energy tax credits also add to the complexity of our tax laws and impose additional administrative burdens upon the Internal Revenue Service. A taxpayer compliance study with respect to individual income tax returns for taxable year 1979 disclosed that of $473 million of taxpayer claims for energy tax credits, $126 million in claims would have had to be disallowed had the Internal Revenue Service been able to fully audit all returns. Taxpayers failed to claim only $26 million in credits that they were otherwise entitled to claim. Thus, by Internal Revenue Service estimates, more than one-quarter of the amount of energy credits claimed by taxpayers for 1979 should not have been allowed.

Finally, many of the conservation improvements subsidized by the residential energy credits would have been made without the tax credits because of decontrol and the increase in world oil prices since 1979. Thus, in many cases, tax credits have served merely to reduce the tax burden of middle- and upper-income households, rather than to encourage additional energy conservation efforts.

In light of these changes in energy economics, it is the policy of this Administration to rely upon the free operation of the marketplace to allocate resources efficiently and to determine energy use. If business investment is to be encouraged--and certainly that has been a primary goal of this Administration--then it should generally be encouraged through broad-based tax reduction. Thus, except to the extent that national security interests require the continued search for oil and gas reserves, the most effective government policy is not one specifically targeted toward subsidizing conservation or conventional and alternative fuel production, but one which improves the overall economic outlook and investment climate by reducing tax rates and expanding capital investments generally within the economy. To that end, the President's proposal calls for the temporary tax incentives available under present law to terminate as scheduled.

V. Conclusion.

The primary thrust of the President's proposal is to encourage investment and economic growth by reducing tax rates and broadening the tax base. At the same time, some existing incentives for undertaking risky exploration and development investment are retained. Some may criticize these proposals for being too generous to the extractive industries, while others may decry any change in the existing tax law. The U.S. is not now energy independent, and is not likely to ever be entirely self-sufficient in energy and mineral production.

While the tax laws may be used to encourage somewhat greater domestic production, and thus minimize the potential adverse effects of foreign energy supply disruptions, they cannot, and should not, be used to replace market forces in the allocation of resources. The President's proposal encourages the continued search for the nation's oil, gas, and mineral resources. It does so through certain direct incentives, and also by generally encouraging economic growth. While it may be possible to encourage even greater investment in the energy industries through direct tax incentives, too great a distortion of the allocation of capital is likely to result from such an approach, producing less economic growth for all American free enterprise.

Senator WALLOP. Thank you, Mr. Mentz.

I am sure you know and have discovered Senator Long's old saw about "I won't tax you if you don't tax me; we'll tax that feller behind the tree" is inherent to everything.

I have a sneaking suspicion that it is easy to deal in abstractions, whether you are talking defense policy or tax policy. I might suggest that you yourself, though you didn't read that portion of it, did it in your own statement, which from my personal opinion is not helpful to the argument and thesis of tax reform. To quote you, the effort was to reduce "those special tax benefits which primarily just serve to reward owners of the richer and more prolific mineral deposits." I don't think that adds philosophy; it adds a certain amount of rhetoric to this discussion.

Mr. MENTZ. That's why I didn't read it.

Senator WALLOP. Well, the problem is this, I assume you were talking about percentage depletion, and I wonder if you could tell me the theoretical underpinnings of the concept of percentage depletion and how it relates to the replacement of capital, which is an encouraged item in other segments of American industry.

Mr. MENTZ. Well, I think the way I view percentage depletion is, percentage depletion provides an incentive to engage in the exploration of oil, gas, coal, whatever the depletable mineral is, because the explorer, the wildcatter, knows that if he is successful, and if he finds the mineral that he is searching for, the resultant income stream will be less heavily taxed than if he were simply to invest in a bond.

Senator WALLOP. That is a very old fashioned, I mean very flamboyant way of referring to this, but in point of fact, it is the means by which that industry has replaced capital the way other industries have replaced capital with other tax structures. It is the idea in mind that, having invested, you immediately that day have your capital pool declining. It is in effect—is it not?—the same as depreciation on a building which you have built. And so to get out of that concept is to get out of the philosophy of the taxation today. You may consciously want to do it, but it is a bad idea to consciously want to do it because you read everybody's newspaper article.

And clearly, if it is just a very favorable tax treatment for an income stream as you have described it, then it is easier to get out of than it is to say, "It is nothing more than the depreciation that is permitted to every other industry on its capital pool once it is established."

Mr. MENTZ. Well, the difficulty with that approach is, if that is what it is, then the comeback, it seems to me, is, "Well, then, why isn't it just another one of those CCRS numbers? And why should there be a special—?" I am not arguing for that, but it seems——

Senator WALLOP. Why wouldn't it be? Why wouldn't you just put it into that, then? If you recognize the legitimacy of replacement of capital under the thesis of depreciation, then of course, you would have a Capital Cost Recovery system that is part and parcel of the theory of taxation in this country, which is a good one. But you didn't do either; you just eliminated it.

Mr. MENTZ. Well, we didn't eliminate it. We switched it over to cost depletion. It is not totally eliminated. Cost depletion is a Capital Cost Recovery system.

You can make the same argument for intangible drilling costs or mining exploration costs, which we did not eliminate.

Senator WALLOP. Well, we will hear it. The thing that concerns me—and I am going to ask us all to abide by the light because we have a big witness list—is a rather simple thing; which was the projection of Chase Econometrics showing that over the course of the next 2 years this is going to cause a depletion in capital investment in this country of $48 billion, a decline in GNP of $25 billion, and I think that you would agree with me that that $48 billion comes primarily out of the industries that are related here, not only the oil and gas but the hard-rock industries, the people who rely most specifically on the availability of capital cash-flow. So, instead of leveling the playing field, which was a laudable purpose, you have flipped it from here to here. And I don't think that has achieved what the President's ultimate goal is in tax reform. That is an observation, not a question.

Senator Bradley.

Senator BRADLEY. Thank you very much, Mr. Chairman.

There is a difference between Treasury-1 and Treasury-2, as Mr. Mentz knows.

And in the energy area, one obvious difference is that in Treasury-2 expensing of intangible drilling costs is back in, plus percentage depletion for strippers. How much does that cost in revenue?

Mr. MENTZ. The percentage depletion costs about $1.8 billion fully phased-in; in other words, 1990.

Senator BRADLEY. But over the first 5 years, the numbers that I was given was $8 billion for the depletion and about $32 billion for the intangible drilling costs. Is that right?

Mr. MENTZ. That sounds right.

Senator BRADLEY. About $40 billion.

Now, in Treasury-1 they went into some detail to talk about who benefits from these provisions. I think they said over half the benefit goes to incomes of more than $75,000. Is that right? Can you give me that breakdown?

Mr. MENTZ. Yes, that is right. I don't happen to have Treasury-1 with me. Treasury-1 we have discarded over at the Treasury; we are working from the new document.

Senator BRADLEY. Yes, that's what happens when you destroy history. [Laughter.]

But I assume Treasury-2 has the breakdown. As I understand it about 31,000 taxpayers making more than $100,000 a year get an average tax benefit from intangible drilling costs of about $28,000. Is that right?

Mr. MENTZ. I don't have the numbers specifically before me, Senator, but there is no question that high income taxpayers do benefit from intangible drilling costs and percentage depletion, of course.

Senator BRADLEY. Would you say that because you chose for national security reasons to put the intangible drilling costs back into Treasury-2 plus the percentage depletion, and because those benefits are used primarily by people making more than $100,000, that in order to be distributionally neutral you had to raise that top tax rate up to 35 percent? You had to keep it at 35 percent?

Mr. MENTZ. We didn't raise it; we kept at 35.

Senator Bradley. You kept it at 35.

Mr. Mentz. I think the way it is viewed—it is not really the Treasury; it is the administration, the President. The way it is viewed is that, despite whom they benefit, these tax expenditures, if you will, are essential in order to keep domestic oil and gas production at roughly current levels. And the conclusion as to who actually gets the tax benefit is simply a flow of whoever owns the interest that is eligible for the benefits.

Senator Bradley. And did or did you not weigh the tradeoff between keeping this perference for upper income individuals on the one hand, and keeping the rate at 35 percent, versus the general benefit of reducing this perference to upper income individuals and cutting the top tax rate maybe back to 30?

Mr. Mentz. Oh, sure. It was weighed, and frankly it was an effort to get all of the pieces of the puzzle to try to fit together—you know, a very clear national security reason for keeping the production "subsidies" if you will. There is no question at all that that was taken into account, Senator, and taken into account by the White House, by the President.

Senator Bradley. The question is "to subsidize, or not to subsidize." Would you agree that the way oil is treated in Treasury-2 is a slight anomaly, or at least inconsistent with the general philosophy of Treasury-2?

Mr. Mentz. Well, I wouldn't call it an anomaly. As I indicated in my testimony, it is a departure from a pure theoretical system where all capital has exactly the same tax incentive so that everything is neutral. I think there is no question that it is a departure from that, and it is a departure from that for a very specific reason.

Senator Bradley. National security?

Mr. Mentz. yes, sir.

Senator Wallop. Senator Matsunaga.

Senator Matsunaga. Thank you, Mr. Chairman.

Mr. Mentz, is it the policy of the administration to encourage the development of alternative renewable energy?

Mr. Mentz. The policy is to allow the free market to work on alternative energy sources without direct tax subsidy, Senator.

I would say that indeed that is the policy of the Congress, too, because many of the credits, the energy credits, are expiring at the end of 1985. So I would say it's a yes.

Senator Matsunaga. It is, you say?

Mr. Mentz. Yes.

Senator Matsunaga. And still, the President's tax proposal would eliminate not only the energy tax credit—15 percent for those—but the ITC of 10 percent, which would mean a reduction of 25 percent in incentives. Do you think this is within the policy of encouraging the development of alternative energy?

Mr. Mentz. I think we will also discourage the kind of wind tax shelters that are springing up.

Senator Matsunaga. That is only in California, because California has a State law which provides the additional 25 percent. Is that not it?

Mr. Mentz. Yes, but don't you think a 25-percent credit is a pretty rich subsidy?

Senator MATSUNAGA. Yes, but it is only in California.

Mr. MENTZ. No, I am talking about a Federal subsidy.

Senator MATSUNAGA. Oh, the total?

Mr. MENTZ. Yes.

Senator MATSUNAGA. Well, you are proposing the complete elimination, of 25 percent.

Mr. MENTZ. Right.

Senator MATSUNAGA. I don't know if you know the situation in Hawaii or not. Do you?

Mr. MENTZ. You are speaking of macadamia nuts?

Senator MATSUNAGA. I am speaking of alternative energy.

Mr. MENTZ. No. Please tell me.

Senator MATSUNAGA. Pardon me?

Mr. MENTZ. Please explain.

Senator MATSUNAGA. You are in charge of energy for the administration?

Mr. MENTZ. No, I'm not in charge; Secretary Herrington is in charge.

Senator WALLOP. Just the tax man, not the energy tax.

Senator MATSUNAGA. We used to throw the bagasse—you know what bagasse is, sugarcane waste—into the ocean. And the thought occurred, "Well, why should we not burn the sugarcane waste?" That is biomass energy. And I talked to the plantation people there. They said, "If you'll give us some incentive to go ahead with the proposal, which means capital investment, we'll go ahead and build plants to pelletize the bagasse into fuel for our steam generators."Just as we gave them incentives in the development of macadamia nuts, a 10-percent investment tax credit was agreed upon.

As a consequence, the island of Hawaii, where just about 5–6 years ago 100 percent of all the electric power was produced by burning imported petroleum, today 20 percent of its electric power is produced by indigenous alternative resources, primarily through the burning of sugarcane waste and wood chips. Another project which we went into through government assistance, was the planting of eucalyptus trees which fully mature for burning in about years. That has been very successful. The same plan was adopted over on the island of Kauai, my home island, and over 20 percent today of the electric power there is produced today by burning biomass.

So if this is an indication of what can be done in the Nation, I think we ought to encourage and continue to encourage the development of these alternative sources. I am speaking not only of biomass now; I am talking about OTEC, Ocean Thermal Energy Conversion, and other renewable resources.

Without the 15-percent investment tax credit for energy, we would not have any private entrepreneur going into the development of OTEC. And we must look forward to the long-term future. The problem of energy policy has been that we look only to the immediate future, "What is it today? What is it tomorrow" and not what it is next year or 5 years after that.

Liquid hydrogen is the greatest promise for transportation fuel. As you probably know, liquid hydrogen is the safest form of transportation fuel for air transportation as well as ground transportation, and with the production of cheap electricity we can lead the world in the development of liquid hydrogen, and we had plans to go into it in Hawaii. As a matter of fact, Lockheed had a plan to build a liquid hydrogen plant, provided we would go ahead and develop geothermal as well as ocean thermal to produce the required power. But when this administration, in its first budget proposal called for repeal of the energy tax credit, potential investors—who had even incorporated to go into development of wind energy as well as ocean thermal and geothermal and wind—just pulled out of Hawaii, and we lost that possibility.

Well, I'm sorry I exceeded my time, Mr. Chairman, but I think we are overly shortsighted in removing the incentives which have served very well. And when you speak of "broadening the tax base," yes. You may check this, but the studies to which my attention has been called say that for every $1 of tax credit we have given for the development of alternative renewable energy the Treasury has enjoyed $9. That's an investment, not an expense to the Government.

Mr. MENTZ. Senator, I certainly understand that Hawaii has been very successful in developing these alternatives you speak of, and I congratulate you and your State for it; but on the subject of the biomass that you mentioned, there is an production tax credit which, under these proposals, would be continued until 1990.

With regard to the ocean thermal, that is an energy credit that would expire under current law at the end of 1985. Now, I think the proper tax policy here should be that, if you want to encourage particular industries or an energy source such as biomass or ocean thermal, perhaps you give it some subsidy, whether it is a tax subsidy or some other form of subsidy, at the outset. But the idea should be to wean that industry away from a subsidy. And indeed that was what the law did when it was enacted in 1978 on your energy credits for ocean thermal, and the same is true with biomass. The idea is a phaseout period or a period of time for the supply to become economically self-sufficient. You certainly don't want to have an energy source that has to be an investment to be subsidized.

Senator MATSUNAGA. Certainly. I agree with you that we should phase out the support and make industry self-supporting; but I am referring to new business. Now, we have investor "A" in the solar power business; well, if he has a phaseout of 5, 6, 7 years, then B, who starts the business today, if granted that same phaseout assistance, would go into the business which he otherwise would not go into. This is what I am talking about.

Senator WALLOP. Mr. Mentz, just one final question. Can you or anyone in Treasury tell me that the excess depreciation recapture is anything but a revenue measure? It certainly isn't part of the tax reform concept, is it?

Mr. MENTZ. Let me explain it.

Senator WALLOP. Well, at the same time you explain it, would you explain why we don't carry the concept to everything else?

Mr. MENTZ. Sure. I'll take that one first. The reason that it isn't carried to other items is primarily just the technical difficulty in doing it. But if Congress is interested in broadening that approach, certainly the Treasury would be supportive and would be prepared to work with you on that project.

Senator WALLOP. Tax dependence and other things?

Mr. MENTZ. Well, I was thinking more of, for example, the concept applies to a deduction taken in the year when the tax rate is at 46 percent. That creates an asset that produces income and is expected to produce income, and the income is going to be generated. You expect it at 46 percent. But when the rate goes down to 33, you have in effect a benefit, because you have your deduction over here at 46 and the income at 33.

Senator WALLOP. The theory behind that is that you should have known we wouldn't keep our word about the Tax Code that would pass?

Mr. MENTZ. No, I don't agree. I think the theory of that is, when a taxpayer invested in an asset, he expected to get an Accelerated Cost Recovery deduction, and he also expected that when the recovery period expired that the lines would cross and in effect he would be picking up income. He expected the deduction at 46, and he expected the income at 46. When the income comes in at 33, he has got an unintended benefit, at least a benefit that was not contemplated; he will certainly take it if he can. That is basically the theory of it.

Senator WALLOP. If the theory holds true, you can it to pension plans and take it to everything else.

Mr. MENTZ. Well, I think pension plans are different.

Senator WALLOP. And in as much as there really wasn't any attempt——

The reason I ask is because, of all the places that it falls most heavily, is with the sickest industry in America today, and that's the mining industry. And, it seems to me if one were to view that from the perspective of tax reform policy, you might find a way to even that out by spreading it over all of those people who invested at one level and recaptured at another, as you describe it, just in the interest of—to use the administration's incessant term—"fairness."

Mr. MENTZ. I find that position very sympathetic, Senator. And I might say I have heard it from others who are also severely affected, and I think that is something that needs to be looked at.

Senator WALLOP. Thank you very much for coming down here this morning.

Mr. MENTZ. It is my pleasure.

Senator WALLOP. We now move to the panels. I will ask the panels to strictly obey the light; we have a number of people yet to go. It is my intention to move straight on through them.

We have told the first panel that they can have 10 minutes, because they are economists and economists can't speak in 5-minute segments. [Laughter.]

No; in all seriousness, theirs is the more complex presentation to make, and we did invite that.

I would ask, seriously, that if there is a possibility in any way to reduce that 10 minutes, that you feel free to do so, and we will go straight through.

The panel consists of Mr. G. Henry. M. Schuler, director of the Bartlett Council on Energy and National Security, the Center for

Strategic and International Studies at Georgetown; Mr. John Lichtblau, the president of the Petroleum Industry Research Foundation, New York; and Mr. Richard Morgan, Research Coordinator of the Energy Project, Environmental Action Foundation.

Mr. Schuler.

STATEMENT BY G. HENRY M. SCHULER, DIRECTOR OF THE BARTLETT COUNCIL ON ENERGY AND NATIONAL SECURITY, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES, GEORGETOWN UNIVERSITY, WASHINGTON, DC

Mr. SCHULER. Thank you, Senator Wallop and Senator Long. Although you are correct that I hold the Dewey F. Bartlett Chair of Energy Security Studies at CSIC, I want to make it clear that the Center does not adopt corporate positions; so this is my own personal views at the invitation of the committee.

Senator WALLOP. I thank you.

Mr. SCHULER. Just very quickly by way of background, my interest in energy security goes back to the early 1970's as a result of having been responsible for trying to defend a major oil field in Libya against Colonel Qadhafi's maneuverings, and as a negotiator with OPEC. And those experiences, frankly, left me convinced that we couldn't rely on oil imports.

It was for this reason that I was deeply disturbed to read last November that the Treasury Department accepted with complete equanimity—some would say complacency—the prospect that the proposed tax changes would reduce U.S. production and increase reliance upon imports. In fact, their analysis openly advocated less U.S. investment in oil and gas production. I found it especially ironic that our Treasury Department could accept greater dependence on oil imports in the 1980's and 1990's, when it was exactly that same Treasury Department which had made formal findings for both Republican and Democratic Administrations in the 1970's that oil imports represented a threat to energy security, the nation's overall security. The irony of that situation prompted me to investigate our current energy prospects, whether they had really changed so drastically that complacency was justified.

That investigation, conducted along the lines of the government's earlier methodology, and supported in part by the American Petroleum Institute, led to the publication of monograph which I have submitted for the record.

[The pamphlet follows:]

SIGNIFICANT ISSUES SERIES
Volume VI, No. 5

The Treasury Department's View of Oil Imports in 1975, 1979, and 1984: A Study in Contrasts

by

G. Henry M. Schuler

CSIS

Introduction

The Treasury Department's tax proposals of November 27, 1984 contain a number of provisions that Treasury analysts acknowledge would cause a decline in domestic production of crude oil, natural gas, and natural gas liquids. The analysts contend that the corresponding increase in dependence upon oil imports would be justified by the desirability of shifting investment capital to less costly forms of energy development or to industries outside of the energy sector. That contention contrasts with explicit findings in 1975 and 1979 by then-Treasury Secretaries William E. Simon and W. Michael Blumenthal that dependence upon oil imports presented a threat to national security—as broadly defined by Congress—that justified measures to encourage domestic petroleum production.

Although the Treasury's 1984 tax analyses failed to include any reassessment of the national security implications of increased oil imports, Congress must consider those overall concerns in reaching a balanced judgement of the tax proposals. This paper reviews the methodology employed in the 1975 and 1979 assessments—including ascertaining the views of numerous Cabinet departments and agencies—to provide a qualitative as well as quantitative appraisal of the fundamental security issues as they appear in the mid-1980s.

Before undertaking the appraisal, this paper briefly addresses several preliminary issues.

- What conclusions did prior Treasury Secretaries reach about the relationship between oil imports and national security?
- How did the petroleum industry respond to efforts to encourage domestic development?
- What is the current and projected oil balance in the absence of tax changes?
- How would the proposed changes affect oil imports?

Moving on to its principal purpose, the paper employs text, tables, and current assessments by government officials to compare the overall security situation in 1985 with the situations prevailing in 1975 and 1979 when the Treasury Department made formal findings that oil imports posed a threat. Those findings reflected a wide range of considerations that will be examined under three broad headings:

- The extent of the vulnerability or burden at the consuming end of the oil supply line;
- The source of the threat or risk at the exporting end of that line;
- The outlook for immediate and future relief from those burdens and threats.

Based upon input from seven Cabinet Departments, the Central Intelligence Agency (CIA), the Federal Reserve Board, and the Council of Economic Advisors, the Treasury analyses identified the following vulnerabilities or burdens:

- The military burden, which includes
  —peacetime fuel requirements for readiness training and exercises,
  —wartime fuel requirements for combat and defense industries,
  —military commitments to protect oil facilities in the Persian Gulf,
  —vulnerability to interdiction of tanker routes in the event of war.
- The foreign policy burden, which includes
  —increased leverage by foreign states that do not share U.S. strategic and diplomatic objectives,
  —greater destabilization of international economic order and currency markets,
  —strained relations with less richly endowed allies who resent U.S. unwillingness to develop domestic energy resources fully,
  —doubts by other countries about U.S. willingness and ability to honor commitments in an oil crisis.
- The strategic burden posed by an imbalance between the U.S. and the USSR, which includes
  —less Soviet vulnerability to supply interdiction,
  —growing Soviet export earnings to finance the hard currency cost of imports,
  —substantial control over Council for Mutual Economic Assistance (COMECON) allies,
  —growing leverage over North Atlantic Treaty Organization (NATO) customers.
- The economic burden of a supply disruption, which includes
  —gross national product (GNP),

  - —unemployment,
  - —inflation.
- ♦ The economic burden of continued supply, which includes
  - —higher overall U.S. and world energy costs,
  - —growing U.S. trade deficits,
  - —the relationship between the international banking crisis and oil earnings or expenditures.

Using the same approach, the paper assesses the threats and risks identified by contributors to the earlier Treasury analyses.

- ♦ The risk posed by overt hostilities is discussed in terms of the Gulf War that broke out in September 1980.
- ♦ The threat of covert terrorism and sabotage is related to specific attacks on oil facilities in Lebanon, Turkey, and Kuwait as well as to the general increase in terrorist incidents in the 1980s.
- ♦ The risk of internal upheaval is analyzed in the context of growing threats to political stability including
  - —the growing appeal of Muslim assertiveness,
  - —the increasing difficulty of dividing a shrinking economic pie.
- ♦ The risk posed by divergent political interests in the Arab-Israeli dispute is assessed in terms of increased Arab frustration over
  - —the unfulfilled promise of the Camp David Accord,
  - —the growing threat of radical intimidation.
- ♦ Renewed threat of divergent economic interests is discussed in the context of
  - —collaboration during the 1980s of non-Organization of Petroleum Exporting Countries (OPEC) producers,
  - —possible changes in Saudi attitudes toward oil prices.
- ♦ The risk of Soviet interdiction or seizure is discussed in terms of the Pentagon's concerns about enhanced Soviet capabilities.

Proceeding to the third broad heading, the paper discusses the outlook for immediate and future relief, including the following considerations that were raised in prior Treasury analyses:

- ♦ The availability of unused production capacity is assessed in terms of its location.
- ♦ The availability of oil in storage focuses questions on the role of private stocks and the overall world situation.
- ♦ The availability of savings from reduced oil consumption raises questions about the impact of past investments in energy efficiency and disenchantment with mandatory controls.

- The prospects for additional fuel switching are derived from the Energy Information Administration's (EIA) latest forecast.
- The prospects for reduced dependence on Middle Eastern oil is discussed in terms of the location of the world's proven reserves.
- The prospects for enhancing the security of Middle Eastern exports is discussed in terms of military preparedness and alternative pipelines.

This paper concludes with a discussion of fundamental precepts and a summation of the principal findings.

1. Although the burden of oil imports has been somewhat reduced since imports peaked in 1977, the constituent vulnerabilities are as bad or worse than they were in 1974 and 1978, the years on which the earlier Treasury assessments were based.
2. The constituent threats to Middle Eastern oil supplies—still the dominant source of exports—are considerably worse in the mid-1980s than they were in the 1970s when the findings were made.
3. Although the decline in world consumption and the partial completion of the Strategic Petroleum Reserve (SPR) have created a cushion of unused production capacity and government-owned storage, their availability and adequacy are highly uncertain during an oil shortfall.
4. U.S. and world dependence upon Middle Eastern oil is likely to grow rapidly, and the prospects for their security will deteriorate.
5. Therefore, legislation to encourage the development of U.S. crude oil, natural gas, and natural gas liquids is required in the 1980s as it was during the 1970s.

1

Oil Imports and National Security

Acting under congressional mandate in section 232 of the Trade Expansion Act of 1962, two secretaries of the Treasury—one in a Republican and the other in a Democratic administration—made formal, well-documented findings that dependence upon oil imports threatened the national security, and they recommended the adoption of steps to increase production of domestic energy sources.[1]

◆ On January 14, 1975, Secretary of the Treasury Simon sent a memorandum to President Gerald Ford stating:

> As a result of my investigation, I have found that crude oil, principal crude oil derivatives and products, and related products derived from natural gas and coal tar are being imported into the United States in such quantities as to threaten to impair the national security . . . I therefore recommend that appropriate action be taken to reduce [such] imports . . . to promote a lessened reliance upon such imports, to reduce the payments outflow and to create incentives for the use of alternative sources of energy to such imports.[2]

◆ On March 14, 1979, Secretary of the Treasury Blumenthal sent a similar memorandum to President Jimmy Carter stating that his predecessor's conclusion was "even more valid today" and that:

> The continuing threat to the national security which our investigation has identified requires that we take vigorous action at this time to reduce consumption and increase domestic production of oil and other sources of energy. To the extent feasible without impairing other national objectives, we must encourage additional domestic production of oil and other sources of energy, and the efficient use of our energy supplies, by providing appropriate incentives and eliminating programs

> and regulations which inhibit the achievement of these important goals.[3]

Those currently charged with reassessing the implications of oil imports should recognize that Congress defined national security in the broadest possible manner in the applicable legislation.

> For the purposes of this section [232 of the Trade Expansion Act] the Secretary and the President shall, in the light of the requirements of national security and without excluding other relevant factors, give consideration to domestic production needed for projected national defense requirements, the capacity of domestic industries to meet such requirements, existing and anticipated availabilities of the human resources, products, raw materials, and other supplies and services essential to the national defense, the requirements of growth of such industries and such supplies and services including the investment, exploration, and development necessary to assure such growth, and the importation of goods in terms of their quantities, availabilities, character, and use as those affect such industries and the capacity of the United States to meet national security requirements. In the administration of this section, the Secretary and the President shall further recognize the close relation of the economic welfare of the Nation to our national security. . . .[4]

In pursuing that congressional mandate, Simon and Blumenthal obtained reports from their colleagues at the Defense, State, Energy, Interior, Transportation, Commerce, Labor Departments and from the CIA, the Federal Reserve Board, and the Council of Economic Advisors. They provided assessments of oil import dependence—often in considerable detail, especially in 1979 when a full year had been made available for study—and concluded that those imports posed a threat to the component of national security in their respective departments. Highlights of those reports will be quoted and summarized in Chapters 7-9 of this paper to establish a basis for comparing the oil import situation existing in the mid-1980s to that of the 1970s.

Notes

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1. There was an earlier such finding issued on March 10, 1959 (see Presidential Proclamation 3279, 24 Federal Register 1781); however, the situation changed so dramatically during the 1970s that it no longer provides a useful precedent.

2. U.S. Department of Treasury, "Report of Investigation of the Effect of Petroleum and Petroleum Product Imports on the National Security," 40 Federal Register 4457 (January 30, 1975).

3. U.S. Department of Treasury, "Report of Investigation of the Effects of Oil Imports on National Security," 44 Federal Register 18818 (March 29, 1979).

4. *The Trade Expansion Act of 1962*, section 232, as amended (Title 19, U.S. Code) and section 232 regulations, 15 CFR 359 (1982). Note that, under a 1979 reorganization plan, responsibility for administering section 232 was transferred to the secretary of commerce under Executive Order 12188 of January 2, 1980, 44 Federal Register 69273; however, the criteria were not changed.

2

The Petroleum Industry's Response

Although the full implementation of the Treasury recommendations of 1975 and 1979 suffered from political concerns and intermittent bouts of energy complacency during periods of steady or even falling real oil prices, reductions in government interference, and increased market prices—experienced and anticipated—stimulated private sector efforts to develop domestic energy resources. Despite the imposition of a heavy excise tax on crude oil production and the continued regulation of much natural gas, the overall financial returns provided both the incentive and the means for 10 years of massive investments in domestic petroleum development.[1]

Over the period from 1974 to 1984, companies invested almost $300 billion in exploration and development and paid an additional $36 billion to the federal government for offshore drilling rights.[2] Those investments stopped a decline in domestic production in a variety of ways. They

- drilled 635,827 exploration and development wells (almost 3 billion feet of hole) that added reserves of about 20 billion barrels and 134 trillion cubic feet;[3]
- prolonged the productive life of over 400 thousand stripper wells, accounting for 1.3 million barrels per day (bpd) of production;[4]
- created some 600 projects to enhance oil recovery from depleted reservoirs, a category of production that accounted for 400 thousand bpd last year and holds the potential to make an enormous contribution;
- financed over 125 costly plants to strip natural gas liquids (NGL), a largely unnoticed form of petroleum that accounted for over 1.6 million bpd (almost 1 barrel of the NGL for every 5 barrels of crude oil).

Some of these efforts, such as infill drilling and the prolongation of stripper wells, provide an immediate benefit, while others, such as lease acquisition, wildcat drilling, and enhanced oil recovery, may involve time lags of 10 or more years between investment and benefit. In any event, the cumulative impact has been to maintain a decade-long plateau of U.S. petroleum liquid production at approximately 8.5 million bpd of crude oil or lease condensate and 1.5 million bpd of natural gas plant liquids. With total demand for oil declining as the result of fuel switching, efficient use, and reduced growth in the industrial sector, the maintenance of this plateau prompted a significant ebb in oil imports from their 1977 crest at 47 percent of U.S. oil consumption.

Notes

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1. Although this discussion focuses on investment in U.S. oil and gas production, it should be recognized that the larger U.S. energy companies have also invested billions of dollars in development of U.S. coal, synthetic fuels, and renewables, as well as in the North Sea and other areas that have helped to diversify the source of U.S. oil imports.

2. Based upon Chase Manhattan Bank's *Annual Energy Survey* (1974 to 1983); the *Oil and Gas Journal*'s estimate for 1984; and the Mineral Management Service, *Federal Offshore Report* (September 1984).

3. Based on the EIA's *Monthly Energy Review*, "Oil and Gas Resource Development," p. 68 for the period of 1974 to 1983, plus the *Oil and Gas Journal*'s estimate for 1984.

4. See the National Petroleum Council, "Enhanced Oil Recovery" (June 1984) and the Department of Energy (DOE) "Increased Understanding of the 300 Billion Barrel U.S. Residual Oil Resource," Office of Fossil Energy (DOE/BPO/SP-84/1) (February 1984) for reserves and production attributable to enhanced recovery and stripper wells.

3

Current and Projected Oil Balance

The level of activity has started to decline even without adverse tax changes as a result of oil price uncertainties and outside capital curtailments, the level of investment in domestic petroleum development has fallen from $56.5 billion in 1981 to $39.8 billion in 1984, and renewed price softness has led some to forecast a further decline to $34.5 billion in 1985.[1] Those reductions in investment are only starting to be reflected in the oil balance statistics that still benefit greatly from the delayed impact of large investments during the 1970s. Table 1 shows the projected impact of lower oil prices.

TABLE 1

The U.S. Oil Balance (Millions of barrels per day)

	1974	*1978*	*1984*	*1985*	*1990*	*1995*
Oil & NGL consumption	16.65	18.85	15.71	15.77	16.74	18.00
Oil & NGL production	10.50	10.33	10.38	10.50	9.73	8.48
Crude oil imports	3.24	6.36	3.44	4.33	5.23	6.69
Refined product imports	3.01	2.01	1.97	1.57	2.15	2.74
Total oil imports*	6.25	8.37	5.38	5.89	7.38	9.44
Imports as a % of oil consumption	37.5%	44.4%	34.2%	37.3%	44.1%	52.4%

Source: Energy Information Administration, *Annual Energy Outlook* (January 1985).
*Note that these gross import figures are based on the EIA data that do not include imports into the Virgin Islands, Puerto Rico, and Guam, therefore, Commerce Department figures used elsewhere in this analysis (where source is important) will be somewhat larger.

The highlights of this projection are as follows:

- Imports of crude oil and refined products in 1985 are expected to equal the 1974 share of total U.S. oil demand which Simon found to be a threat to national security;[2]
- By 1990, crude and product imports are forecast in the EIA base case to regain the 1978 share that Blumenthal found to be an even clearer threat;
- By 1995, such imports are forecast to exceed 52 percent of total U.S. demand, some 5 points worse than the previous peak of 47 percent in 1977.

Although forecasting supply and demand has proved to be an inexact science, the EIA estimate tends to underestimate oil imports rather than overestimate them. The estimate reflects the EIA's base case, employing "middle world oil price" and "middle economic growth" scenarios that the Reagan administration and many forecasters doubt will occur.

- The EIA assumed that the U.S. refiner acquisition cost for domestic and imported crude oil would average (in 1984 dollars per barrel) $28 in 1985, $27 in 1986-1987, $29 in 1989, $30 in 1990, and $40 in 1995, an assumption that many forecasters consider too high.[3] Former Secretary of Energy Donald Hodel, for example, foresaw a decline to $25 in 1985, and some Wall Street analysts have predicted $20 or lower.[4] The EIA's low price case ($24 in 1985 and increasing in real terms to only $25 in 1990) forecasts an increase of almost 1 million bpd in 1990 imports as consumption rises and domestic production declines. As a result, imports would account for 48 percent of U.S. oil demand in 1990 and 65 percent by 1995.[5]
- The EIA assumed fairly rapid near-term economic growth, averaging 3.1 percent per annum real GNP increase between 1985 and 1990, to be followed by a tapering off to 2.3 percent per annum from 1990 to 1995.[6] The President's Economic Report to the Congress of 1985 forecasts an average 3.9 percent per annum real increase over the 1985-1990 period.[7] If the administration's growth targets are met, the EIA calculates that oil imports will increase over 500 thousand bpd by 1990 and account for 46 percent of total oil requirements in that year.[8]

Notes

1. Based on Chase Manhattan Bank's 1981 survey and *Oil and Gas Journal's* preliminary 1984 and 1985 surveys.

2. It should be noted that the EIA data consistently understate the true level of imports because, unlike the Commerce Department, the EIA excludes the Virgin Islands, Puerto Rico, and Guam from its statistics. As a result crude oil imported by U.S. refineries based in those territories, including the Aamerada Hess refinery with a rated capacity of 500 thousand bpd in the Virgin Islands, does not count as U.S. imports. By the same anomalous reasoning, U.S. oil shipments to the territories are counted as U.S. exports and accounted for at least a quarter of so-called exports during 1984. In order to "wash-out" these distortions, we have elected here to use EIA's gross import figures.

3. EIA, *Annual Energy Outlook - 1984*, Table A16, Petroleum Product Prices, p. 219.

4. Forecasts include: $15/bbl (Henry Wojtyla, cited in *Wall Street Journal*, August 2, 1984); $17-18 (Dresel Burnham, cited in WSJ, January 21, 1984); and $26.50 (Salomon Brothers, Stork Research Report of January 1, 1985).

5. See EIA, *Annual Energy Outlook - 1984*, p. 53 and Table D15, pp. 277-78.

6. EIA, *Annual Energy Outlook - 1984*, p. xi.

7. *Economic Report of the President*, transmitted to the Congress in February 1985, Table 1-5, p. 64.

8. EIA's high economic growth case employs a 3.9 percent rate. See *Annual Energy Outlook - 1984*, page 10 and Table C15, pp. 257-58.

4

The Impact of Proposed Tax Changes

The modified flat tax proposal announced on November 27, 1984 by then-Secretary of the Treasury Donald Regan would adversely affect the petroleum industry's ability to recover and attract investment capital in a number of ways.[1] Because the underlying structure and premises of the current and proposed tax provisions are too complex for summary treatment, this paper will not attempt to analyze specific impacts. Instead, it will use as a starting point the Treasury's acknowledgement that each of the following proposals would restrict the internal formation of capital by one or more segments of the petroleum industry.[2]

- Intangible drilling costs (IDC) incurred for services and unsalvageable materials would have to be capitalized and amortized unless the property is abandoned.
- Indirect costs, including interest and lease acquisition expenses, would be similarly treated.
- Certain costs involved in enhanced oil recovery, including tertiary injectants and injection wells, would also be capitalized.
- Amortization of investments in most tangible equipment would be limited to 12-18 percent per annum upon repeal of the Accelerated Cost Recovery System (ACRS).[3]
- Investment Tax Credits (ITC) for qualifying plant and equipment would be repealed.
- The 22 percent depletion allowances, now restricted to independent producers and made subject to percentage limitations and minimum tax requirements, would be repealed.[4]

The Treasury's analysis of the petroleum industry changes discussed other proposals purportedly more favorable to taxpayers generally (by reducing corporate and individual rates) and to oil producers specifically (advancing by a year or two the statutorily scheduled phaseout of the crude oil excise tax).[5] The analysis did not, however, suggest that those aids to capital formation would adequately offset the previously outlined limitations. Rather, the Treasury analysts argued for reduced investment in domestic oil and gas production and acknowleged their own preference for energy sources that would require[6]

- exploration methods that were less expensive than drilling wells,
- development technologies that were less capital-intensive than the costly projects typically involved in frontier and offshore operations,
- resources that were not subject to depletion.

While many would agree with the desirability of finding such alternatives to petroleum, the Treasury analysts did not suggest a cost-effective, politically acceptable, and environmentally desirable way to eliminate—or even significantly reduce—the U.S. reliance on petroleum. Indeed, the EIA estimates that oil and natural gas met 66 percent of total U.S. energy demand in 1984, only 10 percentage points lower than the 76 percent that petroleum provided a decade earlier before the two oil price shocks.[7] Moreover, the EIA forecasts that the next decade will see petroleum's contribution shaved by only 5 points to 61 percent in 1995. In short, there is no foreseeable escape from the paramount importance of petroleum in total U.S. energy supplies.

Although the Treasury Department did not quantify the adverse impact of its proposals on U.S. petroleum production, others have attempted to do so. The Department of Energy believes that the proposals will cause the loss of 500 thousand barrels per day of oil and 1 trillion cubic feet per year of gas by 1987; the American Petroleum Institute (API) foresees the loss of 500 thousand bpd of oil and gas equivalents by 1986, 1.1 million bpd in 1990, and 1.5 million bpd in 1995; and the Independent Petroleum Association of America forecasts 30 thousand fewer wells per year.[8] Although there is no agreement on the precise quantification of the domestic production decline, each of the activities that has contributed to maintenance of a combined crude oil and NGL plateau in the 10 million bpd range over the last decade will be undermined. Major impacts will include the following:

- Required capitalization of the IDC and dry hole costs will reduce the amount of exploration and development drilling at a time when about half the rigs active at the 1981 peak of drilling are already idle.[9]

Notes

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1. Unless otherwise indicated, "petroleum" as used in this analysis includes oil, lease condensate, natural gas plant liquids, and natural gas. An appreciation of that broad, but technically accurate, definition is especially important because the proposed tax changes would adversely affect efforts to find and produce natural gas as well as crude oil and plant liquids.

2. Although the discussion is limited to the direct impact upon internally generated funds, there will be additional indirect impacts upon the external generation of funds. For example, corporate access to borrowed funds is typically limited to about one-third of internally generated funds, and unincorporated exploration ventures will be hurt by proposed restrictions on the use of limited partnerships to attract outside investors.

3. The elimination of ACRS and ITC would affect all industries, yet note that the petroleum industry is especially capital-intensive with an estimated $40 billion expended on exploration and development of U.S. petroleum in 1984.

4. Percentage depletion has not been available to the major integrated companies or larger independents since 1975. 5. The decline in oil prices has already eliminated some of the burden of the so-called Windfall Profits Tax.

6. "Tax Reform for Fairness, Simplicity and Economic Growth," Treasury Department Report to the President (November 1984). The relevant text appears on pages 131-132 and reads as follows:

> Drilling is favored relative to less expensive means of exploration that are not tax-preferred. Investment in energy sources where capital costs are a relatively high share of total costs are favored relative to others.
>
> [and]
>
> Percentage depletion encourages over-production of scarce domestic resources . . .

7. *Annual Energy Outlook-1984*, the EIA (January 1985), Table A2, p. 204.

8. See statement of Deputy Energy Secretary D. Boggs, reported in the *Oil Daily*, February 27, 1985; API draft dated February 21,

- Elimination of percentage depletion will destroy the economics of much stripper production.[10]
- Changed treatment of tertiary injectants and requirements to capitalize steam injection wells will combine with other proposals to affect enhanced oil recovery adversely.[11]
- Elimination of the ACRS and the ITC will deter investment in the costly plants needed to produce natural gas liquids, which have accounted for a growing share of total U.S. output of petroleum liquids.[12]

5

Reassessing the National Security Implications

The Treasury analysts readily acknowledged the inevitable increase in oil imports required to meet the shortfall in domestic production that their proposals would create.

> Some will argue that these subsidies [sic] for the production of minerals provided by special tax treatment cannot be eliminated because doing so would reduce domestic production and increase American dependence on foreign sources of oil and other minerals. . . . While these effects may occur and might be burdensome in the short run, the proposed reforms would be beneficial in the long run because the capital and labor released from the energy and minerals sector as a result of a more neutral tax policy would be employed more productively in other industries.[1]

Econometricians may debate the theoretical long-term benefit claimed for the general economy, but this paper will focus on the failure of the Treasury analysts to follow the pattern established by their predecessors of considering the practical, immediate consequences for the nation's energy security. It will do so by attempting to replicate the diverse inputs and analyses employed in the assessments prepared by Secretaries Simon and Blumenthal.

Careful reading of those earlier assessments identifies a number of guidelines and warnings that must be established before comparing the situations of 1975, 1979, and 1984.

- ◆ First, the danger posed by dependence upon oil imports arises from vulnerability at the consuming end of the oil supply line and from threat at the exporting end of that line. The degree of danger is, in effect, a function of threat times vulnerability.
- ◆ Second, the threats and risks involve political, religious, ethnic, historical, and personal factors that realistically lend themselves only to a qualitative assessment.

1985; Independent Petroleum Association of America Executive Report, December 1984.

9. The EIA, *Monthly Energy Review*, "Oil and Gas Resource Development," p. 68.

10. See, for example, the study released by the Interstate Oil Compact Commission (IOCC) in January 1985.

11. Ibid.

12. Unlike crude and natural gas reserves, proved reserves of NGLs have been growing since 1980 and increased 9 percent in 1983. See the EIA Advance Summary of year end 1983 reserves released in September 1984 (DOE/EIA - 0216[83]).

- Third, although the vulnerabilities and burdens may be quantitatively assessed, they too require the exercise of judgement to avoid the following pitfalls:
  - —Data gaps such as lack of knowledge about the source of crude oil refined abroad for reexport to the U.S. as products. This masking of U.S. vulnerability is growing as products occupy ever larger shares of total imports.
  - —Statistical distortions as in the EIA treatment of the U.S. Virgin Islands and Puerto Rico, both important refining centers, as foreign countries so that their crude oil imports are excluded from U.S. totals while U.S. shipments to them are treated as exports when developing so-called net import figures.
  - —Misleading labels such as "OPEC," which does not include all of the exporters collaborating to manipulate production and prices, and "OAPEC," which does not include all of the countries championing Palestinian causes.
- Fourth, assessments invariably involve comparisons, but by selecting the years of greatest U.S. vulnerability as the base period leads to complacency, therefore, this paper will compare the current situation with those that prompted the earlier findings.
- Fifth, the United States is an integral part of a worldwide supply and pricing system so its situation must be examined within an international framework.
- Finally, although it is exceedingly difficult to look into the future with any precision, it is useful nonetheless to establish the direction in which the danger is moving.

Although it is sometimes difficult to distinguish cause and effect, it is organizationally helpful to group the considerations examined in prior Treasury analyses under three headings:

- The extent of the vulnerability or burden at the consuming end of the oil supply line,
- The source of the threat or risk at the exporting end of that line,
- The outlook for immediate and future relief from those burdens and threats.

Notes

1. Treasury Department Report to the President (November 27, 1984), 132.

6

The Extent of the Vulnerability or Burden

The earlier Treasury assessments reached the conclusion that oil imports represented an overall burden or threat to national security by identifying a wide range of individual national interests that were at risk by insecure or costly energy supplies. Despite the lack of a well-documented Treasury assessment, this paper will attempt to replicate the earlier methodology through comparison of the current situation with the circumstances that gave rise to security concerns.

The Military Burden

Citing concerns about readiness training, war mobilization capability, overextended commitments, and allied steadfastness, Secretary of Defense Harold Brown called oil vulnerability "the single surest threat that the future poses to our security and to that of our allies."[1]

Examination of those individual national defense concerns reveals that the burdens are generally more onerous today than they were when the earlier assessments were made.

- *Military fuel requirements continue to impose a special vulnerability even during peacetime* because the Department of Defense (DOD) remains the nation's largest single consumer of petroleum products—and indeed of total energy—despite massive investments in conservation and fuel efficiency as well as reduced readiness training. Table 2 makes it clear that concerns expressed about 1974 and 1978 volumes and costs have grown more acute in the 1980s.

Although there has been a 5 percent reduction in the DOD's overall petroleum demand during the past decade, it has been achieved through conservation and fuel-switching at stationary fuel-burning installations for heating and power generation. In the more

TABLE 2

Defense Petroleum Requirements and Costs

	FY 1975	*FY 1978*	*FY 1984*
Total petroleum consumption (millions of barrels)	189 million	170 million	178 million
Total mobility fuel consumption (millions of barrels)	156 million	138 million	166 million
Total petroleum costs (billions of dollars)	NA	$3.1 billion	$7.6 billion

Source: Department of Defense Statistics.

militarily significant category of mobility fuels, the Reagan administration's increased emphasis on military preparedness and deployment has erased the savings that were achieved through development of more efficient engines in the late 1970s. U.S. planes, ships, and land vehicles now consume more fuel than they did in 1975 when the DOD expressed concern about supply interruption, and the DOD's budget for petroleum is two and a half times as large as it was in Fiscal Year (FY) 1978 when concern was expressed about the impact of rising costs upon readiness. The DOD expects its petroleum consumption to rise at a rate of 2 percent per annum.

◆ *An anticipated quadrupling of fuel requirements in the event of war* continues to prompt serious concern among military planners. Prepositioned War Reserve Stocks (PWRS) are intended to meet fuel requirements in a conventional war for 30-60 days, however, inadequate tankage and peacetime dipping into wartime reserves have reduced the PWRS to an estimated two-thirds of desired levels in 1984.[2] As the deficient PWRS are being drawn down in a wartime scenario, military logistics experts foresee an immediate requirement for 2.5-3 million bpd of crude oil to meet the demand for 2 million bpd of refined products as mobility fuel for U.S. forces and as much as 4.5 million bpd of crude oil to meet total NATO force requirements of 3 million bpd.[3] Pentagon planners have little confidence in the availability of foreign crude and refining capacity to meet these expanded requirements, and they note with concern that the Strategic Petroleum Reserve is committed to civilian uses. Therefore, they must rely on the maintenance of adequate U.S. oil production and refining capacity.

◆ *U.S. military responsibilities in the Persian Gulf* have been dramatically expanded since the Simon and Blumenthal assessments. The Carter Doctrine of January 1980 and the subsequent Reagan Corollary have led to the creation of the Central Command (formerly the Rapid Deployment Force), the construction of basing facilities in the area, the prepositioning of supplies and equipment, and the stationing of a carrier battle group in the Indian Ocean. Although allocating the defense budget to specific missions is controversial, Dr. Earl C. Ravenal, a former DOD official currently teaching at the Georgetown University School of Foreign Service, has testified that the addition of a specific Persian Gulf mission adds $47 billion to the FY 1985 budget and that the cumulative

10-year cost to prepare to fight a war to defend its oil exports will reach $727 billion.[4] While the DOD cannot accept that enormous number, the armed forces could not undertake the additional far-flung mission in Southwest Asia without an enormous infusion of forces and funds. Moreover, it would be much more difficult to justify those military commitments if threats to U.S. and allied energy security no longer existed.

- *Long and vulnerable sea lanes* remain a significant source of concern about dependence upon oil imports during a conventional war. The earlier DOD assessments indicated a relative preference for imports from the Western Hemisphere because of the seemingly easier task of protecting tanker routes close at hand. Some military analysts question the validity of that logic in light of failure to assign naval forces to a hemispheric mission, but the general perception remains and much has been written about the increased availability of Mexican crude oil. Even if we apply that questionable criteria, however, table 3 demonstrates that the principal Western Hemisphere sup-

TABLE 3

Imports from the Three Largest Western Hemisphere Suppliers (Millions of barrels per day)

	1974	*1978*	*1984*
Canada	1.1	0.5	0.6
Venezuela	1.0	0.6	0.5
Mexico	NS	0.3	0.7
Total Big Three Western Hemisphere	2.1	1.4	1.8
TOTAL imports	6.3	8.4	5.4
Big Three Western Hemisphere as a % of Total	33%	17%	33%

Source: The Energy Information Administration Statistics.

pliers provide no larger share of U.S. imports than they did a decade ago.

Once the source of U.S. imports moves outside the Western Hemisphere, the vulnerability of various sea lanes is not significantly different. Therefore, it is difficult to argue that oil imports from the North Sea are less exposed to potential submarine attack than those from the Middle East.

The Current Defense Department Assessment

Although the Treasury Department has not invited the Department of Defense to assess whether the oil import burden on national defense has been adequately relieved since the 1970s, the DOD has made its position clear in two recent statements urging development of domestic petroleum as "one of the nation's highest priorities."

Focusing on military fuel requirements, the DOD wrote the Department of Commerce in November 1983 supporting development of the Santa Ynez Unit off the shores of California.

> Simply put, without sufficient fuel the forces cannot operate—in peace or war. For the foreseeable future, the fuel that DOD must depend on is liquid hydrocarbon fuel from traditional sources. Key weapon systems in the inventory and on the drawing boards are designed to operate on liquid hydrocarbon fuels only. Thus, it is vital that DOD have ready access to such fuel. It is evident that the most secure sources of that fuel are domestic ones. . . . In the absence of that development, America's crude oil reserves will ultimately suffer. And, to the extent that domestic reserves are diminished, military readiness and sustainability are impaired.[5]

Addressing DOD's concerns about additional financial, logistical, and strategic burdens to protect foreign suppliers, Secretary of the Navy John F. Lehman, Jr., told Congress in June 1984

> We think that offshore leasing with follow-on exploration and production is one of the highest priorities of national security. Our energy dependency abroad results in additional costs to our Defense budget and adds additional risks of our becoming embroiled in conflicts abroad. So, we have a very strong interest, in the Defense Department, in programs that . . . have the

promise of making contributions that will reduce our dependence on foreign oil.[6]

The Foreign Policy Burden

Secretary of State Henry A. Kissinger wrote candidly in 1975 that the

> massive transfer of wealth will greatly enhance the economic and political power of the oil rich states which do not share our foreign policy objectives.[7]

In 1979, the State Department said,

> the way in which we deal with this situation is widely regarded by other countries as a test of United States leadership and determination to play a constructive role in international relations.[8]

The Department of Defense then wrote

> Decisions of hostile nations which could entail intervention in the affairs of, or aggressive act toward, other nations will depend as often on our economic health and the will of our people as on our military capabilities. Other nations' perceptions of these factors, as well as the objective facts are critical to the national security.[9]

In sum, dependence upon oil imports raised concerns about the vulnerability of U.S. foreign policy to embargoes, financial leverage, or other coercive measures. Those concerns endangered relations across the international spectrum—with exporters who thought they possessed new leverage, with allies who resented U.S. failure to develop its own resources, and with adversaries who questioned U.S. resolve.

The potential for hostile manipulation knows no boundaries, but it is usually discussed in terms of the Arab-Israeli dispute, which has given rise to three such efforts in the past. Although the oil exports and financial reserves of the Middle East and North Africa have declined in recent years, it is impossible to conclude that those states lack economic and political power should they choose—or be forced by internal or regional pressures—to employ it.

- *U.S. reliance on imports from the Middle East and North Africa is probably close to 1 million bpd.* Table 4 provides a comparison of direct U.S. imports from the Organization of

TABLE 4

U.S. Imports from OAPEC*
(In millions of barrels per day)

	1973	*1974*	*1978*	*1984*
Total Direct U.S. Imports**	6.3	6.1	8.4	5.4
Direct Imports from OAPEC	0.9	0.8	3.0	0.8
OAPEC as a % of total	14.3%	13.1%	35.7%	14.8%

Source: The Energy Information Administration Statistics.

*The Organization of Arab Petroleum Exporting Countries that imposed the 1973–1974 embargo and production curtailment. It includes Algeria, Libya, Saudi Arabia, United Arab Emirates, Iraq, Kuwait, and Qatar.

**Does not include imports of petroleum products derived from OAPEC crude oil but refined outside of OAPEC.

Arab Petroleum Exporting Countries (OAPEC) during the relevant years.

The reduction in U.S. reliance upon OAPEC oil since 1978 is significant; however, several caveats are noteworthy.

—The OAPEC classification used by the EIA does not include all of the Arab countries that might be forced by local pressures to participate in a future embargo. And, while OAPEC is not a significant exporter to the United States at the moment, it does not include Iran, which eschewed the Palestinian cause under the Shah but has become one of its strongest champions under the Ayatollah Khomeini.

—More important, table 4 only covers direct crude oil and product imports from the Middle East and North Africa, because it is difficult to trace the crude oil origins of products refined outside those regions. In other words, the crude oil effectively loses its identity when it is refined abroad or even in U.S. territories such as the Virgin Islands and Puerto Rico that have over 500 thousand bpd of refining capacity. The overdependence upon Arab and Iranian oil is made worse by increased Arab investment in European refineries (especially by Kuwait), by increased use of processing arrangements to get around OPEC quotas, and by a growing U.S. shift from crude oil imports to product imports. (Products represented 36 percent of total imports in 1984, up 50 percent over the 1978 level.) Analysts estimate that the U.S.

imports perhaps 250 thousand bpd of products derived from Arab and Iranian crude, but the volume may be considerably higher.

- *The dependence of U.S. allies upon Arab and Iranian oil* remains extensive as demonstrated in table 5, which shows imports during the first six months of 1984.
- *The Middle East and North Africa provide over half the crude oil, refined products, and natural gas liquids moving in world trade* even though their production is as much as 12 million bpd less than the 1977 peak of 26 million bpd. Table 6 details the source of those exports during 1983 (the latest year for which export detail is available).

The fact that the Arab states and Iran continue to meet a predominant share of world import requirements—even at the probable nadir of their oil production—is of crucial importance. Any significant curtailment of their exports is certain to drive up spot prices and ultimately set the standard for official world oil prices regardless of source.

TABLE 5

Allied Imports from the Middle East and North Africa
(In millions of barrels per day)

	Total Oil Consumption	*Imports from Mid-East & No. Africa*	*Mid-East & No. Africa as a % Total*
Japan	4.7	2.8	60%
West Germany	2.3	0.6	26%
France	1.9	0.8	42%
Italy	1.7	1.1	65%
Great Britain	1.7	0.2	12%
Canada	1.5	NS	NS
Other OECD Europe*	4.3	2.0	47%
Other OECD Outside Europe**	0.7	0.2	29%

Source: The Energy Information Administration.
*Includes Turkey but excludes Yugoslavia
**Excludes U.S.

TABLE 6

Oil Exports from the Middle East and North Africa (In thousands of barrels per day)

Country	*1983 Exports*	*1983 Production*
Saudi Arabia*	4,500	5,225
Iran	2,150	2,505
Kuwait*	1,000	1,115
Iraq	800	970
United Arab Emirates	1,200	1,300
Libya	1,000	1,105
Egypt	375	720
Algeria	850	965
Oman	335	390
Qatar	300	315
Tunisia	80	120
Syria	None	170
Bahrain	20	50
Total Mid-East & No. Africa	12,610	14,950
Total World	24,300	56,033
Mid-East & No. Africa as a % of World	52%	27%

Source: CSIS data base.
*Includes one-half of Neutral Zone production

- *The financial leverage of Middle Eastern oil exporters remains extensive.* Table 7 reveals that the income of OPEC countries was higher in 1983 (the most recent official data) than in 1978 or 1974, which provided the basis for earlier Treasury decisions.

Although OPEC, as a group, slipped into a current account deficit in 1982 and began withdrawing assets held abroad, the rich OPEC states (Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, and

TABLE 7

OPEC Revenues (In billions of dollars)

	1974	*1978*	*1983*
Algeria	3.3	4.6	9.7
Ecuador	0.4	0.5	1.2
Gabon	0.2	0.6	1.3
Indonesia	1.4	5.2	10.9
Iran	17.8	19.3	18.7
Iraq	5.7	10.2	8.4
Kuwait	6.5	7.7	8.7
Libya	6.0	8.4	10.9
Nigeria	6.7	7.9	10.2
Qatar	1.8	2.2	2.4
Saudi Arabia	22.6	32.2	47.6
United Arab Emirates	5.5	8.2	11.7
Venezuela	9.3	7.3	12.3
Total	87.2	114.3	153.9

Source: OPEC Statistical Bulletin.

Libya and non-OPEC Oman) still enjoyed a cumulative current account surplus of $329 billion at the end of 1984.[10]

Current State Department Assessment

Despite the reduction in Arab and Iranian output in recent years, the Department of State still views energy security as a critical component of alliance relations and foreign policy. Therefore, the State Department continues to urge the development of U.S. petroleum.

> New indigenous petroleum production is essential to national security. The experience of the last decade has demonstrated the fragility of our supply of imported energy. While autarky [energy self-sufficiency] is not an option, we need to take every available action to minimize our dependence on insecure foreign energy supplies . . . Without such new production, U.S. dependence on imported oil will increase sharply.
>
> The U.S. has been a leader in urging our allies to take appropriate actions to increase domestic energy production. At the

> Williamsburg Summit the President emphasized the importance of developing economic alternatives to imported energy . . . the current outlook for investment in the development of indigenous energy sources is less than satisfactory. We have urged our allies to take steps to improve this situation, and are committed to act ourselves.
>
> Development of our energy resources will also contribute to the strength of the U.S. economy and of friendly nations . . . [and] can make a substantial contribution to strengthening our balance of payments. Such production will also reduce upward pressure on oil prices, which we expect to rise as oil markets tighten later in the decade.[11]

The Strategic Burden

The Departments of State and Defense and the CIA all expressed concern to the Treasury Department that the petroleum balance, frequently overlooked in discussions of the strategic balance between the United States and the Soviet Union, tilted toward the USSR because of its self-sufficiency and export leverage. Secretary of State Kissinger described U.S. dependence upon imports, "a serious erosion of the political power of the United States and its allies relative to the Soviet Union."[12]

Table 8 demonstrates that the petroleum imbalance has widened considerably since Secretary Kissinger expressed concern.

- *Since 1975, the USSR has overtaken the United States as the world's leading producer* of both crude oil and natural gas. Over the past decade Soviet production of crude oil and natural gas liquids has increased by one-third while U.S. production has remained essentially flat. As a result, the Soviet Union held a 17 percent advantage last year even though its oil production dropped slightly. Although the Soviet Union will be hard pressed to meet its 1985 target of 12.6 million bpd, expanding output of NGLs should more than offset declining production of crude oil from older fields while the United States is threatened with a significant overall decline if the proposed tax legislation is enacted.[13]

Much has been written about Soviet failures to meet even more ambitious targets in the oil sector while Soviet successes in surpassing targets in the equally vital natural gas sector have largely been ignored. Thus, the last decade has also seen the USSR more than double its gas production to 20.7 trillion cubic feet (TCF) per

TABLE 8

Petroleum in the Strategic Balance: U.S. versus USSR

	1974	*1978*	*1984*
Proven oil reserves			
U.S.	35.3 billion bbls	28.5 billion	27.3 billion
Soviet	8.34 billion bbls	71.0 billion	63.0 billion
Crude oil & NGL production			
U.S.	10.5 million bpd	10.3 million	10.4 million
Soviet	9.2 million bpd	11.5 million	12.2 million
Crude oil reserve life			
U.S.	11 years	9 years	8.5 years
Soviet	25 years	17 years	14.7 years
Proven gas reserves			
U.S.	237 TCF*	NA	198 TCF
Soviet	812 TCF	NA	1,450 TCF
Annual gas production			
U.S.	22.2 TCF	19.5 TCF	17.9 TCF
Soviet	9.2 TCF	12.9 TCF	20.7 TCF
Gas production (bbls of oil equivalent)			
U.S.	11.1 million boe/d**	9.8 million	9.0 million boe/d
Soviet	4.7 million boe/d	6.5 million	10.4 million boe/d
Natural gas reserve file			
U.S.	10.7 years	NA	11.1 years
Soviet	88.3 years	NA	70.0 years
Total petroleum production			
U.S.	21.6 million boe/d	20.1 million	19.4 million boe/d
Soviet	13.9 million boe/d	18.0 million	22.6 million boe/d

Source: CSIS data base.
*TCF: trillion cubic feet
**boe/d: barrel of all equivalent per day

year, while U.S. gas production declined 20 percent, to 17.9 TCF. As in oil, the Soviet Union supplanted the United States as the world's leading gas producer in 1982 and exceeded U.S. output by 16 percent last year. Moreover, after a 10 percent increase in 1984, Moscow expects to increase production in 1985 by 8 percent, to at least 22.3 TCF, while U.S. production is threatened by declining prices and proposed tax changes.[14]

If oil and natural gas production are combined on an oil equivalency basis, the Soviet Union has increased output by 63 percent over the past decade and now leads the United States by 17 percent, due to a U.S. decline of 10 percent over the same period.

The Soviet Union's petroleum advantage in the strategic balance is likely to increase in the future, for proven Soviet crude oil reserves are over twice as large as U.S. reserves, and Soviet gas reserves are seven times as large. Thus, despite larger current Soviet production levels, the USSR reserve life is 15 years for oil and 70 years for gas while that for the U.S. is 8 for oil and 11 for gas.

- *Beyond self-sufficiency, significant—and rising—petroleum exports provide the Soviet Union with about two-thirds of its total hard currency requirements.* Table 9 demonstrates the growth in Soviet exports and earnings since the assessment of 1974.

Over the past decade, net Soviet oil exports have increased 70 percent, while net gas exports have increased more than 40-fold. Moreover, use of net figures understates the level of Soviet exports, because many of its 250 thousand bpd of crude oil imports come from Libya and Iraq in payment for arms. The Soviet Union thereby promotes its political goals by exporting arms to friendly or client states, gets paid in oil on highly favorable terms, and then sells the oil to Europe for hard currency.

Soviet exports of oil to non-Communist trading partners have almost doubled over the past decade to about 1.9 million bpd last year, and gas exports have increased 12-fold to about 6 billion cubic feet per day (cf/d). As a result, while U.S. outlays for imported oil and gas have increased some two and a half times since 1974, accounting for $63 billion of last year's total trade deficit of $123 billion, the Soviet Union's revenues from oil and gas exports have increased some sevenfold, contributing an estimated $22 billion to last year's overall surplus of $10 billion. On a cumulative basis over the decade, the United States has spent over $550 billion on energy

TABLE 9

Petroleum in the Strategic/Economic Balance: U.S. versus USSR

	1974	*1978*	*1984*
U.S. Petroleum Imports			
Oil imports	6.2 million bpd	8.4 million	5.4 million
Gas imports	2.5 billion cf/d	2.7 billion	2.2 billion
Combined expenditures	(−$24 billion)	(−$43 billion)	(−$63 billion)
Soviet Petroleum Exports			
Oil exports to free world	1.0 million bpd	1.5 million	1.9 million
Oil exports to communist countries	1.1 million bpd	1.8 million	1.7 million
Net oil exports	2.0 million bpd	3.1 million	3.4 million
Gas exports to W. Europe	0.5 billion cf/d	2.4 billion	6.0 billion
Gas exports to E. Europe	0.8 billion cf/d	1.5 billion	2.7 billion
Net gas exports	0.2 billion cf/d	3.0 billion	NA
Combined hard currency revenues	$3.4	$6.8 billion	$22 billion

Source: CSIS data base.

imports while the USSR has earned over $125 billion on energy exports.

The declining value of Soviet gold exports has placed even greater importance on petroleum earnings in recent years. The USSR, like other petroleum exporters, is paid in dollars and thereby benefits when the stronger dollar enables it to purchase more strategically important goods and services in the depreciated currencies of its West European trading partners.

Despite forecasts of Soviet oil production problems, domestic fuel-switching is expected to release additional oil for export in the coming years so overall earnings may continue despite declining prices.[15] The Soviets also hope to earn $10 billion per year from natural gas exports by the end of the decade.

In addition to earning hard currency, Soviet petroleum exports also provide a measure of political leverage, especially over its Communist allies. Soviet exports of oil to partners in the Warsaw Pact, Cuba, and Vietnam have increased over 50 percent in the last decade, and gas exports have risen three and a half fold. Although the Soviet Union does not receive hard currency for these sales, they play a vital strategic role in forcing restive allies to toe the line, especially on economic matters.[16] The sales also enable Eastern Europe to export an additional 300 thousand bpd of refined products to earn West European foreign exchange for themselves.

Although Soviet leverage over Western Europe is considerably less, it has been increasing. (See table 10.) Soviet oil exports to Western Europe increased almost 60 percent between 1980 and 1984. These oil volumes have never created excessive concern about NATO vulnerability, however, U.S. strategic planners view with alarm the growing dependence upon Soviet gas supplies.

Beginning with sales of small volumes to Austria in 1968, the USSR had become a major West European supplier by 1980. The NATO allies of the United States have contracted for an additional 30 billion cubic meters per year of gas to be delivered via the controversial pipeline from the Urengoi fields in Siberia. The Siberian gas began to flow in 1984 and will reach full capacity by the end of the decade at which time European dependence on Soviet gas will be significant. The estimates of table 11 could be low if pipeline gas from deep offshore Norwegian fields and liquefied natural gas (LNG) from the Middle East or Africa turn out to be economically uncompetitive.

TABLE 10

Soviet Oil Exports to Western Europe (Thousands of tons)

	*Crude Oil** *Jan.–June 1983*	*Products* *Jan.–June 1983*	*Total* *Jan.–June 1983*	*USSR as % of total imports* *Jan.–June 1983*
Austria	706	7	713	18.0
Belgium	1,231	1,016	2,247	12.9
Denmark	417	25	442	7.8
Finland	3,653	887	4,540	87.0
France	2,310	1,195	3,505	7.7
W. Germany	1,864	2,887	4,751	8.7
Greece	669	318	987	12.1
Iceland	—	118	118	74.2
Ireland	—	64	64	3.0
Italy	2,819	229	3,048	6.6
Japan	25	240	265	0.26
Netherlands	1,356	5,920	7,276	19.2
Norway	82	61	143	7.5
Portugal	198	—	198	6.6
Spain	404	481	885	4.9
Sweden	977	337	1,314	11.8
Switzerland	45	1,366	1,411	21.6
Turkey	—	44	44	0.6
United Kingdom	927	480	1,407	7.1
United States	1	—	1	—
Total	17,684	15,675	33,359	5.4

Source: *The Petroleum Economist.*

***Including natural gas liquids and refinery feedstocks**

TABLE 11

Soviet Natural Gas Exports to Western Europe (Billions of cubic meters per year)

	Volume in 1980	*% of total consumption*	*Volume in 1990*	*% of total consumption*
Austria	2.9	55%	4.4	65%
West Germany (including West Berlin)	10.7	20%	21.9	33%
Italy	7.0	22%	15.0	34%
France	4.0	10%	12.0	30%
Switzerland	—	—	0.9	—
Total	24.6		54.2	

Source: Stern, *International Gas Trade in Europe.*

Current Defense Department Assessment

Soviet oil and gas gains since the two earlier Treasury assessments have raised serious concerns among U.S. military strategists. For example, the deputy director of the Defense Intelligence Agency recently described the threat posed by the U.S. failure to keep pace with Soviet output as follows:

> The outlook for Soviet energy, from the perspective of the USSR's leadership, is highly favorable. Prospects for the full satisfaction of domestic needs, planned energy exports to East European Communist countries, and negotiated quantities for customers in Western Europe appear to meet Soviet expectations through the 1980s and beyond. In addition to providing solid economic benefits for the USSR, Soviet energy self-sufficiency is also likely to result in greater political influence by the Soviet Union over certain decisions of its West European customers and, perhaps to a lesser extent, of Japan. . . .
>
> Soviet planners clearly understand the politics and economics of oil. This knowledge is and will be used to meet their hard currency requirements, place pressure on world supplies and prices, and through oil exports, seek to influence political decisions of other states. . . .
>
> The Soviet Union's massive reserves of gas represent the cornerstone of a long-term energy policy that has far-reaching implications, both domestically and internationally. Within the USSR itself, natural gas is expected to play a major role in meeting Soviet energy needs during the late 1980s and early 1990s. . . . Internationally, these natural gas resources will enable the USSR to continue providing the states of Eastern Europe with 70-80 percent of their hydrocarbon requirements. . . . [and to] deliver $8-$10 billion worth of gas, with deliveries beginning in the mid-to-late 1980s to West Germany, France, Austria, Italy, Belgium, and the Netherlands.[17]

The Economic Burden of a Supply Disruption

In his 1975 findings, Secretary Simon identified two distinct types of economic burden imposed by reliance upon oil imports.[18] First,

> Any sudden supply interruption in excess of [1 million bpd] and particularly a recurrence of the 2.4 million barrel per day reduction which occurred during the OPEC embargo, would have a prompt substantial impact upon our economic well-

> being, and, considering the close relation between this nation's economic welfare and our national security, would clearly threaten to impair our national security.

And second,

> In addition, the price at which oil imports are now purchased causes a massive payments outflow to other countries [and] poses a more intangible, but just as real, threat to the security of the United States as the threat of petroleum supply interruption. On both grounds, decisive action is essential.

Secretary Simon's identification of two economic problems is entirely correct, but as he wrote, it is easier to quantify the more tangible impact of a supply disruption. In fact, neither the general public nor the policy-making community appears willing to focus on energy security in the absence of a real or hypothetical oil shock.

This was no problem in 1975, when minds were still focused by the first shock of 1973-1974. Citing oil's unique role in the economy, the Departments of Commerce, Labor, and Transportation as well as the Council of Economic Advisors, emphasized the impact of reduced availability and higher prices upon the key macroeconomic variables: gross national product, unemployment, inflation, private investment, and personal consumption expenditures.

The events of the first shock, and, indeed, those of the second oil shock in 1979-1980, have receded from public memory in the United States thanks to the remarkable resiliency of the U.S. economy when free from government intervention and controls. Still, even though oil demand, energy consumption, and the ratio between energy use and economic growth have all declined, Secretary Simon's concern is no less valid in the mid-1980s, when oil and natural gas still provide two-thirds of total U.S. energy requirements.

Fortunately, those examining the impact of reduced U.S. oil and natural gas production have the benefit of a current assessment published by the U.S. Congress, Office of Technology Assessment (OTA) in response to a request from the Senate Committee on Foreign Relations. The OTA analysis opens with a valuable observation about the oil shocks of 1973-1974 and 1979-1980.

> The U.S. economy and energy supply system were jolted by two oil supply disruptions during the decade of the 1970s. In each case, deliveries of liquid fuels were restricted or unreliable for several months after the onset of the disruptions, and oil prices rose rapidly. Following these initial instabilities,

> deliveries became more reliable; but petroleum prices remained permanently higher than before the disruptions, a situation that is economically equivalent to a permanent reduction in petroleum supplies. Thus, both disruptions can be characterized as resulting in a temporary period of instability, but a permanent reduction in oil supplies.[19]

It is not necessary to postulate supply interruptions of an unlikely duration to foresee long-term impacts on the U.S. economy. In fact, the OTA hypothesizes that a temporary shutdown of Persian Gulf exports in 1985 (for example, as the result of interdicting the Strait of Hormuz or damaging export and production facilities) could raise real world oil price levels by 65-130 percent and prompt fuel switching that would curtail U.S. imports by 3 million bpd for the remainder of the decade.[20] That hypothetical scenario is not unrealistic, for the OTA points out that real oil prices increased 120 percent after each of the two earlier shocks and that U.S. imports declined 4 million bpd after the second.

To assess the pace at which the U.S. could replace 3 million bpd of oil imports, the OTA modeled an optimistic scenario (Case A) in which domestic energy sources would respond to relatively modest price increases, an average $54.30 in real 1983 dollars over the period of 1985 to 1990. The OTA also considered a more sluggish scenario (Case B) in which prices would have to average $74.17 before domestic supplies would fill the gap.[21] In its analysis, the OTA assumes a prompt drawdown of 1.5 million bpd from the Strategic Petroleum Reserve and commercial inventories but avoids forecasting the government's fiscal and monetary response to the immediate disruption on the grounds that such cyclical phenomena have little effect on the long-term macroeconomic impact. The following five figures and commentary portray the OTA's projection of that impact on the key economic variables.[22]

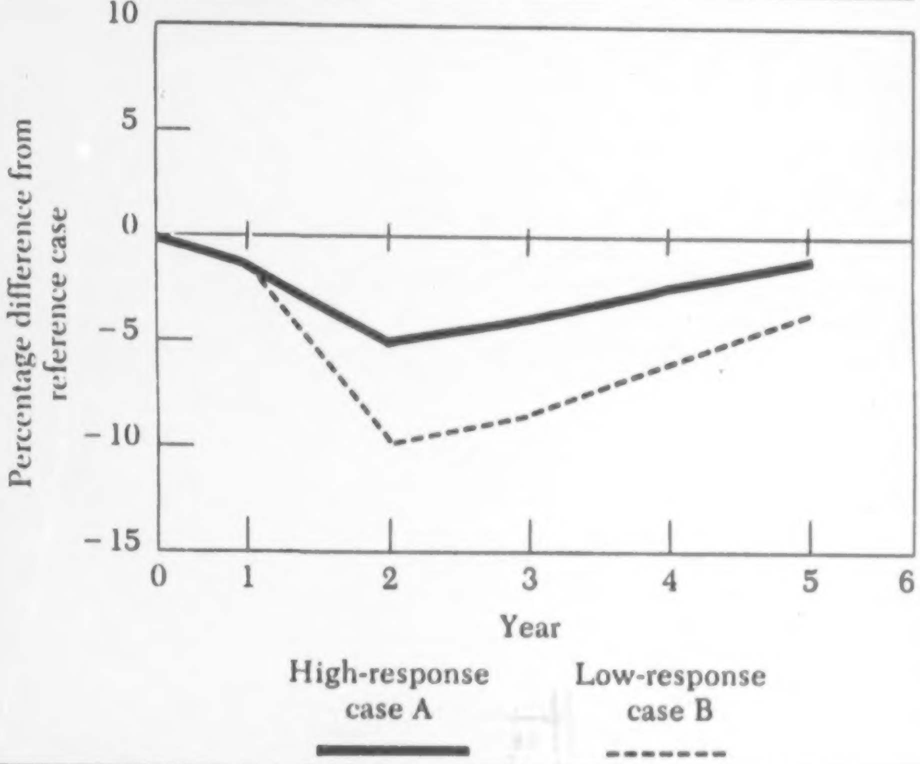
◆ *Gross national product is adversely affected by oil import curtailment and higher prices* in several ways.

During the second year of the curtailment, the rate of GNP decline from the previous year is 1.3 percent under the optimistic case and 5.2 percent under the low response case. For purposes of comparison, note that a real GNP decline of 1.[illegible] percent between 1981 and 1982 constituted the worst recession since the Great Depression and that a decline of 5.2 percent is well outside recent historical experience.

Over five years, the GNP is lowered an average 3.5 percent in the

FIGURE 1

GNP: Two Shortfall Projections · Percentage Reductions From Reference Case



Source: Office of Technology Assessment.

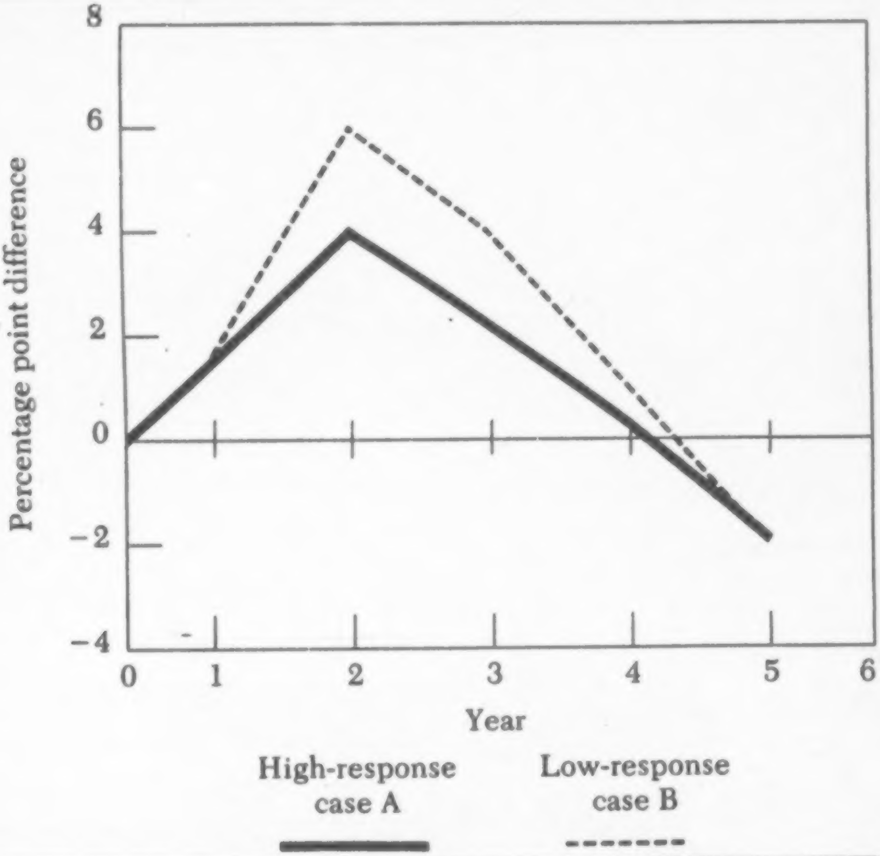
optimistic case and 6.2 percent in the other. The level of the GNP does not catch up with precurtailment base case projections for five to seven years, depending upon price scenario.

- *Unemployment increases significantly in the immediate wake of oil import curtailment.*

In the first two years, the annual rate of unemployment increases by over 4 points and approaches the 1982 postdepression high of 9.7 percent under the optimistic case, while it increases by 6 points and sets a new postdepression high in the low response case. On

FIGURE 2

Unemployment: Two Shortfall Projections Percentage Point Changes From Reference Case



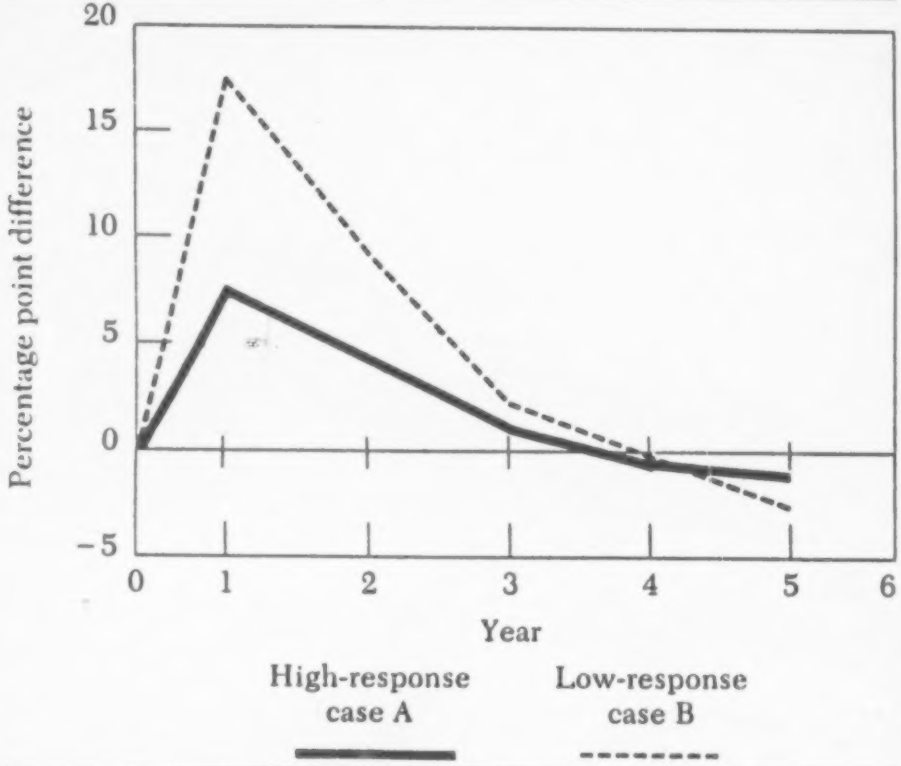
Source: Office of Technology Assessment.

average over five years, unemployment would be increased by 1.7 points in Case A and by over 2.3 points in Case B.

Although the figure shows a sharp decline in unemployment after the second year and a fall below the noncurtailment scenario in the fifth year, the OTA cautions against placing excessive reliance upon the optimistic projections, noting that the massive curtailment could exacerbate the chronic macroeconomic problem.

FIGURE 3

Inflation: Two Shortfall Projections Percentage Point Changes From Reference Case



Source: Office of Technology Assessment.

- *Inflation jumps dramatically before oil prices level off, permitting the general rate of increase to return to precurtailment levels.*

Under the higher oil price scenario, Case B, the curtailment adds almost 20 points, and the general rate of inflation reaches a level unmatched since 1946. Even the optimistic price scenario adds about 9 points to overall inflation. Over the five year curtailment, the average annual rate of inflation increases 2.7 points under Case A and 5.4 points under Case B.

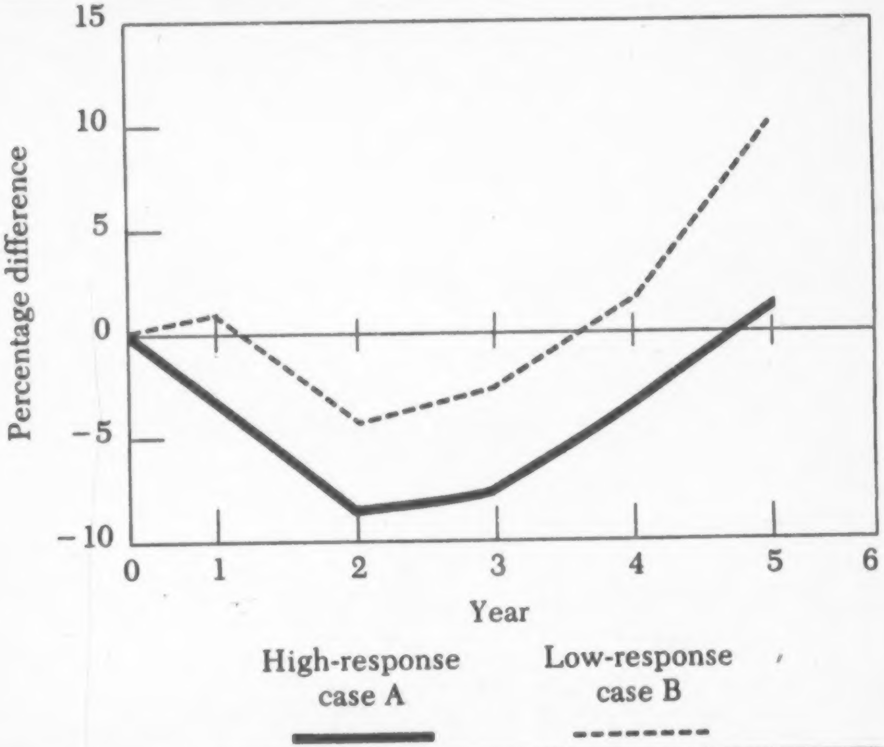
The model assumes that money supply will be held to a constant rate of growth, however, the OTA cautions that these forecasts will be heavily influenced by federal monetary and fiscal policy.

◆ *Private investment in plant and equipment is dramatically affected.*

Capital will not expand at its precurtailment rate, so investments in domestic energy alternatives, presumably made attractive at $55-75 per barrel, will crowd out other investments. Investment in technologies that would increase labor productivity will decline as higher oil prices push labor costs down the ranking of costs.

FIGURE 4

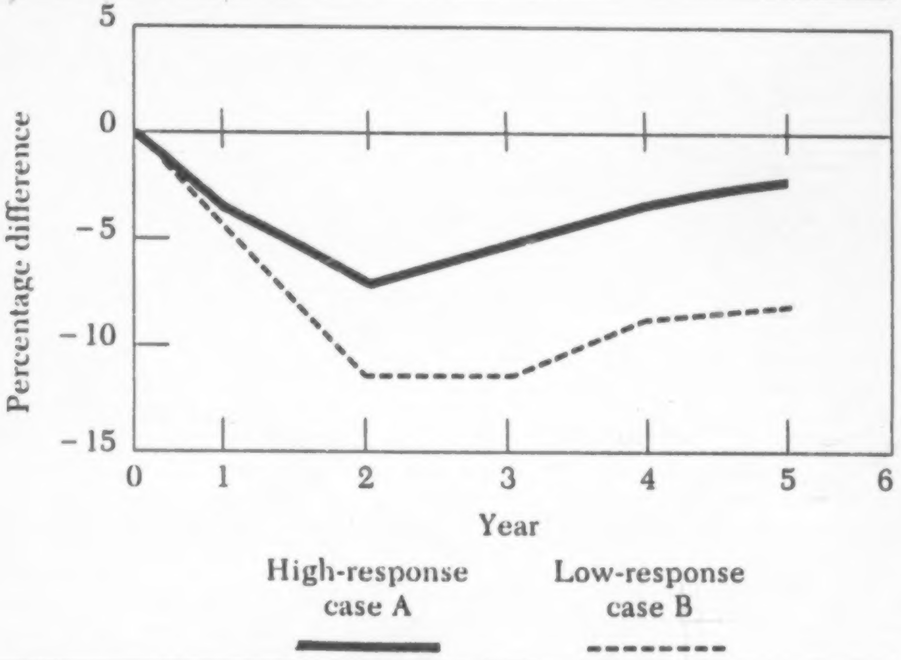
Investment in Producer Durables Percentage Change From Reference Case



Source: Office of Technology Assessment.

FIGURE 5

Personal Consumption Expenditures Percentage Change From Reference Case



Source: Office of Technology Assessment.

- ◆ *Personal consumption expenditures (PCE) will fall below those indicated by the pre-oil shock trend for two years as the economy goes into recession.*

The PCE fall more rapidly than the GNP, declining an average 4.7 points over the five years under the optimistic scenario and 8.8 points under the second case. Certain consumer durables, like automobiles, bear the brunt of the CPE curtailment. Housing starts decline due to higher interest rates induced by inflation.

Current Treasury Department Assessment

Those responsible for promoting U.S. economic growth view the prospect of increased oil imports with concern. In fact, the threat posed by massive macroeconomic dislocations like those outlined above has recently prompted Treasury to adopt a position on oil imports which is very similar to that espoused by Secretary Simon a decade ago. In late 1983, Treasury issued the following statement about the economic benefits of encouraging oil development.

> From a general point of view, Treasury sees significant benefits from the development of domestic energy resources. Such development contributes to economic activity, lowers import bills, and reduces dependence on unreliable sources of supply. All three contribute to national security, the first two by strengthening the economy and the last by reducing vulnerability to oil supply interruptions.[23]

The Economic Burden of Continued Supply

Although the economic burden of inability to procure oil imports in emergencies captures the most public and governmental attention, the on-going burden of procuring such supplies in ordinary circumstances is just as threatening to the national economy. Citing concerns about oil prices, import costs, overall trade deficits, currency fluctuations, and unstable financial markets, Federal Reserve Board Chairman G. William Miller called for the reduction of oil imports in his 1979 submittal to Secretary Blumenthal.

> The U.S. oil import bill is now running at an annual rate of over $40 billion, up from $8.5 billion in 1973; oil imports now constitute one quarter of the dollar value of U.S. imports. The trade balance, meanwhile has moved from an approximate balance in 1973 to a deficit of almost $35 billion in 1978.[24]

Miller's statement provides some interesting benchmark statistics for comparing the situation in 1984 and leads to the clear conclusion that the on-going economic burden of oil imports is more onerous now than it was during the earlier Treasury assessments. (See table 12.)

- ◆ *The world price of oil has increased in real terms as well as in dollars of the day.* Stated in terms of 1973 dollars, the current price of OPEC's "marker crude" ($13.02 in February 1985) is 50 percent higher than it was prior to the second oil shock ($8.70 in December 1978) and five times the level prior to the first oil shock ($2.59 in September 1973).

Because of this price increase, the cost of U.S. oil imports has not declined proportionally with the 35 percent reduction in volume

TABLE 12

U.S. Energy Import Costs

	1974	*1978*	*1984*
Average oil cost per barrel			
Dollars of the day	$11.10	$14.28	$29.24
1974 dollars	$11.10	$10.04	$13.84
Oil Imports Volumes	6.2 million bpd	8.4 million	5.4 million
Oil Import Costs	$26.6 billion	$42.3 billion	$59.2 billion
Natural Gas Import Volumes	2.5 billion cf/d	2.7 billion	2.2 billion
Natural Gas Import Costs	$0.5 billion	$0.7 billion	$3.4 billion
Electricity Import Volumes	0.133 quads/year	0.204 quads	0.371 quads
Electricity Import Costs	NA	NA	$ 0.9 billion
Total Energy Import Costs	$27 billion	$43 billion	$64 billion
Total U.S. Import Costs	$104 billion	$176 billion	$341 billion
Energy as a Percent of Total	26 percent	24 percent	19 percent

Source: CSIS data base.

between 1978 and 1984. In dollars of the day, the oil import bill in 1984 was 40 percent higher than in 1978. In 1978 dollars, it was about the same, $40 billion in 1984 as compared to $42 billion in 1978.

- *Increased oil prices have also raised other energy prices.* The overall cost of U.S. energy, as measured by the Consumer Price Index, has continued to climb steadily through the end of 1984, even though the price of gasoline has declined from its peak in 1981.[25]
- *U.S. oil imports still represent about one-fifth of total import costs.* Although this is down from the level of approximately one-fourth in 1974 and 1978, oil imports are still the largest single component of the total U.S. import bill by a wide margin. In 1984, transportation equipment, principally autos, was the second largest category, but, at $22 billion, it represented only 37 percent of the $59 billion outlay for crude oil and refined products. Oil imports also dwarfed the other large categories of imports: primary metals ($17 billion), electrical machinery ($16 billion), and apparel ($13 billion).
- *Energy import costs represent a significant portion of the U.S. merchandise trade deficit, which may reach $140 billion in 1985.*[26] Expenditures of $64 billion on energy imports represented over half of the total U.S. merchandise trade deficit—$123 billion—in 1984. The cumulative oil import cost over the past decade has been about $550 billion, 29 percent of total import costs and 167 percent of the overall trade deficit.

The cost of U.S. energy imports is 50 percent higher than the net earnings of the nation's three largest export categories combined: agricultural products ($20 billion), chemicals ($10 billion), and nonelectrical machinery ($9 billion).

The individual U.S.-OPEC merchandise trade deficit jumped 40 percent in the last year, from $9.6 billion in 1983 to $13.7 billion in 1984 and accounted for 11 percent of the total deficit.[27] This deterioration is likely to increase as the strong dollar prompts OPEC to switch even more to European and Japanese suppliers of manufactured goods. Virtually all of the deficit is accounted for by OPEC oil sales to the United States.

Energy imports worth about $10 billion accounted for just half of the U.S. merchandise trade deficit of $20 billion with Canada in 1984 (17 percent of the total deficit). Moreover, this situation is likely to get worse, for although most assessments of energy import costs focus on oil, Canadian exports of natural gas and electricity are a growing cost to U.S. consumers. Some analysts estimate that U.S. imports of Canadian natural gas will double by 1990 to 1.7 TCF per year while the cost of imported Canadian electricity will increase tenfold to $10 billion by 2000.[28]

Mexico's oil exports, valued at close to $8 billion, accounted for all of the $6.3 billion overall U.S.-Mexican trade deficit (5 percent of total U.S. merchandise trade deficit). (See table 13.)

- *Because of the dollar's appreciated value, the local currency cost of oil imports for countries other than the United States is higher now than it was prior to the OPEC price reductions of March 1983 and February 1985.* Table 14 reveals that the price expressed in a basket of EEC currencies is almost 20 percent higher than the OPEC price of $34 per barrel that prevailed prior to the $5 price cut in March 1983.

These higher oil import costs have helped to dampen economic growth—and the prospects for U.S. exports—outside of the United States. For example, while U.S. gross domestic product increased an astonishing 6.7 percent in 1984, most U.S. allies and trading partners grew much more sluggishly: Japan (5.4 percent), Italy (2.9 percent), Germany (2.5 percent), Britain (2.2 percent), Brazil (2.0 percent), and France (1.8 percent).[29]

On the other side of the coin, because oil exporters—including the USSR and Great Britain—are paid in dollars, the appreciation of the dollar has increased the purchasing power of oil exporters vis-à-vis European and Japanese suppliers. This has significantly cushioned the reduction in official prices. Britain's tax revenues on North Sea production have similarly benefited.

While the United States has reaped the full benefit of the dollar price reduction, any future depreciation of the dollar could have the reverse affect—raising U.S. costs and prompting oil exporters to seek protection of their purchasing power through price increases.

- *The price and volume of oil moving in world trade play a central role in the delicately balanced international debt situation.* Oil exporters are among the world's largest international debtors with Mexico owing $96 billion, Venezuela $35 billion, and Nigeria $15 billion. A significant decline in the world price of oil could trigger the collapse of their painfully renegotiated payment schedules.

Large oil importers also overextended themselves in the 1970s, especially Brazil with $100 billion in international debt. The large

TABLE 13

Energy Imports and Trade Deficits (Billions of dollars)

	1974	*1978*	*1984*
Total U.S. Merchandise Trade Balance	+$ 8.9	(–$34.0)	(–$123.3)
Merchandise Trade Balance with OPEC	(–$8.9)	(–$18.5)	(–$ 13.7)
Merchandise Trade Balance with Canada	+$1.7	(–$ 2.5)	(–$ 20.4)
Merchandise Trade Balance with Mexico	NA	NA	(–$ 6.3)
Total U.S. Energy Import Costs	($27)	($43)	($64)
Cost of Energy Imports from Canada	NA	NA	(–$10.0) est
Cost of Energy Imports from Mexico	NA	NA	(–$ 8.0) est

Source: Department of Commerce Statistics.

TABLE 14

Impact of Dollar Appreciation on the Cost of OPEC Crude

	March 1983	*March 1985*	*% Change*
OPEC Market Price	$29	$28	−3%
European Currency Unit*	$29	$40.22	+38.7%
German Mark	$29	$37.80	+30.3%
UK Sterling	$29	$37.41	+29%
Japanese Yen	$29	$30.26	+4%

Source: CSIS data base.

*Reflects the value of all EEC currencies except for the Greek drachma

oil importers could theoretically benefit from lower world oil prices, but the favorable impact for them would be drawn out and less dramatic than the immediate adverse impact on oil exporters. (See table 15.)

- *Oil exporters control a significant portion of the large volume of liquid assets that overhangs world currency markets.* Miller's concern about excessive depreciation of the dollar (10 percent during 1978) has been replaced by Chairman of the Federal Reserve Board Paul A. Volcker's concern about excessive appreciation of the dollar (12 percent during 1984 and 65 percent since the end of 1980), but that switch simply reemphasizes the transient vagaries of currency and capital markets where fundamental circumstances can, on occasion, be overwhelmed by perceptions and comparative opportunities. The danger, as Volcker has pointed out, is that market psychology can change rapidly and lead to a sharp decline in the value of the dollar, in which case the U.S. would once again face the problems of inflation and a tightened monetary policy.[30]

Current Federal Reserve Assessment

Although public and congressional attention focus on the importation of manufactured goods from Japan, oil imports still impose the largest single burden on the U.S. balance of trade. Therefore, any assessment of the implications of U.S. dependence must consider the warning contained in the Federal Reserve Board's semiannual report, presented February 20, 1985 to the Senate Committee

TABLE 15

OPEC Investments of June 30, 1984

United States		
Bank deposits	$19.1 billion	
Treasury bonds and bills	$31.7	
Other investments	$32.9	
Total		$ 83.7 billion
Great Britain		
Sterling deposits	$ 5.7 billion	
Eurocurrency deposits	$52.5	
British government instruments	$ 2.7	
Other investments	$ 3.8	
Total		$ 64.7 billion
Other industrialized countries		
Bank deposits	$52.4 billion	
Other investments	$72.2	
IMP & IBRD (including gold)	$21.9	
Total		$146.5 billion
Loans to developing countries		$ 55.0 billion
Total		$349.9 billion

Source: Bank of England report.

on Banking. Citing the rapidly rising trade deficit, Volcker questioned the sustainability of that trend.

> The rising trade deficit helps account for the failure of a number of important sectors to participate at all fully in the expansion. Agriculture, heavy capital equipment producers, and the metals industry, all of which face difficult structural problems in any event, are examples. . . .
>
> Looking ahead, the stability of our capital and money markets is now dependent as never before on the willingness of foreigners to continue to place growing amounts of money in our markets. So far, they have been not only willing but eager to do so. But we are in a real sense living on borrowed money and time.[31]

Summary

The current situation, with respect to each of the specific burdens and vulnerabilities identified in the 1975 and 1979 Treasury analyses, may be summarized as follows:

- The military burden is much greater in terms of the mission added in 1980 to protect the Persian Gulf, marginally greater in terms of mobility fuel requirements, and about the same with respect to access to Western Hemisphere oil.
- The foreign policy burden has been significantly reduced if measured by U.S. dependence upon Arab and Iranian oil but only marginally reduced if measured by allied and world dependence upon those suppliers.
- The strategic burden is much greater because of the growing gap between U.S. and Soviet petroleum production, which permits the USSR to increase its hard currency earnings and leverage over importers.
- The economic burden of a supply disruption depends upon a great many unpredictable factors but could equal or exceed that caused by the embargo.
- The economic burden of continued supply, although partially relieved in the United States by reductions in OPEC prices and import volumes, remains the largest single component of a growing balance of trade deficit; the relief in Europe and the Third World has been even less due to the strong dollar.

In short, the relief from the overall burdens of the 1970s has not created a sufficient cushion to justify the adoption of measures that will increase oil imports.

Notes

1. 44 Federal Register 18818 (1979), 18828.
2. *Defense Energy Management Plan* (September 1982), 315.
3. U.S. Department of Energy, Office of Naval Petroleum and Oil Shale Reserves, "Final Report on Developing a Readily Usable Defense Petroleum Reserve" (June 1983), 8; McDonald, "The Critical Role of Sea Power," *NATO's Sixteen Nations* (April-May 1984), 14.
4. Hearings on "Costs in Protecting Foreign Oil and Gas Supplies" before the Subcommittee on Panama Canal/Outer Continental Shelf, Committee on Merchant Marine and Fisheries, House of Representatives (June 27, 1984), 468.
5. Department of Defense letter, dated May 13, 1983, to the Department of Commerce supporting the development of the Santa Ynez Unit in the Santa Barbara Channel.
6. Hearing before the Subcommittee on Energy Conservation and Supply, Committee on Energy and Natural Resources, United States Senate (June 26, 1984), 110.
7. 40 Federal Register 4457 (1975), 4462.
8. 44 Federal Register (1979), 18841.
9. Ibid, p. 18828.
10. "OPEC-The Financial Crisis" (New York: Salomon Brothers Inc., January 1985), Figure 1.
11. Department of State letter, dated November 14, 1983, to the Department of Commerce supporting development of the Santa Ynez Unit in the Santa Barbara Channel.
12. 40 Federal Register 4475 (1975), Annex B, page 1.
13. *Oil and Gas Journal* (February 18, 1985) p. 64 for a discussion of Soviet operating problems.
14. *Oil and Gas Journal* (December 24, 1984): 24.
15. See, for example, "USSR's Energy Exports Predicted to Rise in 1985," *The Oil Daily* (January 15, 1985).
16. See, for example, "Soviets to press allies for Economic Unity, using future Oil Deliveries as an Incentive," *Wall Street Journal*, June 11, 1984.
17. Statement of Major General Richard X. Larkin, deputy director, and Edward M. Collins, vice director for Foreign Intelligence,

Defense Intelligence Agency, before the Joint Economic Committee, Subcommittee on International Trade, Finance and Security Economics (July 8, 1981), 41-42 and 47-48.

18. 40 Federal Register 4475 (1975), 4457.

19. Office of Technology Assessment, "U.S. Vulnerability to an Oil Import Curtailment: The Oil replacement Capability" (September 1984), 3. The Congressional Research Service has also performed an analysis of "Oil Supply Disruptions and the U.S. Economy" (August 1984) that concludes that its worst case scenario would have a serious adverse impact but that its medium risk scenario could be met by adoption of an "accommodating monetary policy," a strategy that many doubt the Federal Reserve Board would be able to pursue if increased oil prices revived hyperinflation.

20. Based on a precrisis level of $30 per barrel, the OTA describes $50-70 per barrel (1983 dollars) as its "estimate of the probable post-shortfall price of oil." See the OTA's separate summary pamphlet, page 9.

21. OTA, "U.S. Vunerability to an Oil Import Curtailment," p. 141.

22. OTA, "U.S. Vulnerability to an Oil Import Curtailment," pp. 146-152.

23. Letter from the Department of Treasury to the Department of Commerce, dated October 17, 1983, in support of development of the Santa Ynez Unit off the shore of California.

24. 44 Federal Register 18818 (1979), 18824.

25. For Consumer Price Indices 1946-1984, see Table B-52 and B-53, *The President's Economic Report to Congress* (February 1985).

26. "U.S. Trade Deficit Climbs in January to $10.3 Billion," *Washington Post*, March 1, 1985.

27. "Major Contributors to the U.S. Trade Deficit," *Washington Post*, February 3, 1985.

28. See "Canada's Energy Sales to U.S. Grow Rapidly and Stir Controversy," *Wall Street Journal*, February 15, 1985.

29. "Gains Seen for Global Economy," *Washington Post*, January 20, 1985.

30. "Volcker Remarks Trigger Sudden Slide in Dollar," *Washington Post*, March 7, 1985.

31. Statement by Paul A. Volcker before the U.S. Senate Committee on Banking, Housing and Urban Affairs (February 20, 1985), 4-10.

7

The Source of the Threat or Risk

The 1975 and 1979 Treasury assessments cited a wide range of situations and attitudes that could trigger adverse consequences if the United States and its allies continued to depend on oil imports. Since those assessments were made, much has changed, but a current reassessment of the situations and attitudes leads to the conclusion that they are no less threatening and pose no less of a risk than they did in 1975 and 1979. In many instances, the fundamental situation has deteriorated in the intervening years.

The Risk Posed by Overt Regional Hostilities

In the 1979 assessment, both the Department of Defense and the Central Intelligence Agency concluded that regional hostilities could lead to the destruction, interdiction, or harassment of oil exports. The DOD wrote

> Many ideological disputes in the Middle East have the potential to escalate to armed conflict in a single country, on a regional scale within the Middle East, or could draw in powers outside the Middle East.[1]

Similarly, the CIA concluded

> There are a number of regional territorial and political disputes involving Middle Eastern oil exporting nations that could escalate to armed conflict, including insurrections, guerrilla wars, and more conventional international wars.[2]

Some 18 months after they issued those warnings in early 1979, the hypothetical risk was transformed into a real war in which belligerents attacked each others' oil facilities. The ensuing four and a half years of conflict have had a devastating impact upon Iraqi and Iranian facilities and operations, including the following:

- Permanent destruction of such key facilities as Iraq's 3 million bpd export terminal on the Gulf and Iran's 500 thousand bpd refinery at Abadan.
- Intermittent damage to other facilities, including key pumping stations in northern Iraq and Iran's Kharg Island terminal.
- Cancellation of plans to develop new Iraqi fields (including 7-14 billion barrels at Majnoon Island, which was seized by Iranian forces) and of plans to install needed pressure maintenance in depleting Iranian fields.
- Attacks, principally by Iraq, on over 50 nonbelligerent tankers and vessels employed in offshore oil operations, leading to several dozen casualties and about $1 billion in insurance claims.

As a result of those attacks, combined Iraqi and Iranian production declined from an average 5.3 million bpd (two-thirds Iraqi and one-third Iranian) during the eight months of 1980 prior to the outbreak of war to about 600 thousand bpd in October. During the remainder of 1980, production barely exceeded internal consumption, so exports essentially halted. Although production gradually resumed, it did not exceed 45 percent of prewar levels in 1981, 55 percent in 1982, or 65 percent in 1983 and 1984.[3] These later levels have been reflected in OPEC ceilings, but it is doubtful that either country is currently capable of significantly increasing its exports in the face of continuing attacks and threats.

Some analysts would argue that these hostilities have had little impact on oil markets because of increased production by the other Arab exporters. Those arguments, however, ignore the possibility that oil prices might have declined even more if neither country had been constrained by damage and interdiction. Moreover, there is little basis for assuming that other exporters and world markets would necessarily react in the same way under a different set of circumstances. Finally, it would be rash to dismiss the continuing threats by the belligerents to escalate and broaden the conflict.

Current Defense Department Assessment

The military establishment is not sanguine about current prospects for peace and stability in the region. In his Fiscal Year 1986 authorization request to Congress, Secretary of Defense Caspar Weinberger expressed concern that oil worth $106 billion per year comes from an area where

> Causes of instability and conflict . . . are many: ethnic and religious cleavages, irredentism and territorial disputes, rivalries for regional power and domination, and economic fluctuations and grievances. Although many of these problems are rooted deep in the past, the reach and intensity of Third World conflict in recent years have been exacerbated by the proliferation of technologically advanced weapon systems and, above all, by increased Soviet support—both direct and through proxies—for terrorism, insurgency, and aggression.[4]

Similarly, the joint chiefs of staff, in presenting their military posture report for Fiscal Year 1985, said

> The Middle East and Southwest Asia contain a large percentage of the world's known petroleum reserves and oil production. Continued Free World access to the region and these oil resources is a vital concern of the United States. Regional stability and the limitation of Soviet influence are also important U.S. security objectives for the area.
>
> Threats to stability within this region are numerous and complex. Local disputes, fueled by religious and nationalistic differences and complicated by social and political changes, have drawn many regional factions into armed conflict. Where possible, the Soviets have attempted to exploit these differences in ways inimical to the interests of the United States and its friends. Three major conflicts persist. Serious differences remain among factions in Lebanon. If not resolved, these differences could lead to even greater tensions in the region. In the Persian Gulf area, the Iran-Iraq war continues. This war could increase in intensity and scope, thus endangering other Gulf states and oil fields and threatening free passage through the Strait of Hormuz. In Afghanistan, the Soviets have established a strong, permanent military presence, increasing pressure on other nations in the region.[5]

If Iran were to prevail in the Gulf war, warned former Secretary of State Kissinger in February 1985, the consequences for oil supplies and prices would be enormous.

> Iran especially would not hesitate to impose on a defeated enemy and its impotent neighbors the production cutoff that it accepted for itself in the 1970s. It would thereby achieve unilaterally what it has been urging on OPEC for years: sharply reduced production, greatly increased oil prices and a black-

mail position vis-à-vis the industrial democracies. A victory for Iran would be as well a political disaster because it would enhance the prestige of the most radical version of Islamic anti-Western fundamentalism from Southeast Asia to the shores of the Atlantic Ocean.[6]

The Risk Posed by Covert Terrorism and Sabotage

In addition to concern about open hostilities between nations in the region, in 1979 U.S. security authorities were concerned about covert activities by disaffected elements. Although there had been no actual instances of peacetime sabotage or terrorism directed at oil facilities, the CIA warned that

> There is a high probability that acts of nature, human error or a deliberately targeted terrorist act will interrupt the flow of oil in one or more of the oil exporting nations during the next several years.
>
> Interruptions of oil supply owing to [these cuts] are not likely, by themselves, to be of a magnitude and duration which would result in severe economic disruption of Free World economies though they would exert strong upward pressure on prices in a tight world oil market. Extensive terrorist action against key oil storage and transportation facilities in the Persian Gulf could, in particular, significantly affect the market by substantially reducing oil supplies for the time required to put those facilities back into operation, which could be several months.[7]

The deteriorating Gulf security situation and increasing Iranian terrorism of the past five years have turned the abstract fears of 1979 into realities. There have been a number of Iranian-backed covert attacks on oil facilities since 1979, including the following:

- In January 1982, Iran's Shi'ite partisans in Lebanon sabotaged the Kirkuk to Tripoli pipeline and launched a rocket attack on a tanker lifting Iraqi oil at the terminal in Tripoli. Although damage was minimal, the attacks may have helped persuade Syria to close the pipeline two months later.
- In a similar effort to disrupt Iraqi oil exports, Iranian-supported Kurds sabotaged the Kirkuk to Ceyhan pipeline inside Turkey. While Iran has been unwilling to pursue the campaign with vigor against neutral Turkey, the incident serves as a reminder that pipelines may be as vulnerable to attack as tankers.

- On December 12, 1983, the Teheran-headquartered *Al Dawa* organization of Iraqi Shi'ites planted car bombs at six targets in Kuwait. Although one suicide mission destroyed a U.S. Embassy annex and killed several people, a larger bomb in a car parked alongside the Kuwaiti government-owned Shu'aiba refinery and petrochemical complex failed to detonate. Despite the failure, the Kuwait bombings demonstrated the general inadequacy of security in the Gulf and the vulnerability of oil facilities that are often highly centralized at remote desert locations or within easy access of seaborne saboteurs.[8]

Current State Department Assessment

Recognizing the ever-increasing threat of terrorism, Secretary of State George Shultz has made four major public addresses on the subject in the past eight months.[9] Although there were few significant attacks on oil facilities, the tragic 1983 and 1984 suicide bombings in Beirut have demonstrated a combination of fanaticism and sophistication that few would have considered possible at the time of the earlier Treasury assessments. Any installation is vulnerable to determined terrorist attack.

The State Department's most recent annual report on terrorism summarizes the current situation.

> The United States and its allies around the world enjoyed no respite from international terrorist violence in 1983. The year set new records both in total terrorist casualties (1,925) and in the number of U.S. victims (387) . . . . The Middle East dominated the global terrorism picture in 1983. The region accounted for nearly 60 percent of terrorist casualties worldwide although continuing to rank third (after Western Europe and Latin America) in the actual number of individual terrorist incidents. Terrorist activity in the Middle East—notably that apparently sponsored by Iran in Lebanon—caused the greatest damage not only in lives and property, but also in terms of political stability.[10]

The Risk Posed by Internal Upheaval

In addition to open hostilities and externally supported terrorism—or perhaps in conjunction with—there is an ever present danger that local grievances will lead to internal upheaval and changed oil policies. The ousting of the shah of Iran at the time that Blumenthal was concluding his 1979 assessment made policymakers especially wary of such risks. Indeed, the CIA warned that

> As demonstrated by recent events in Iran, oil supply interruptions can emerge from political upheavals among the governments of major oil producers in the Persian Gulf. The probability that another oil exporter may suddenly undergo an unsettling change in the next several years is hard to assess. But, should a political discontinuity occur, one possible consequence would be a reduction, for an indefinite period of time, in oil output. The underlying motivations of the new leadership in such a contingency could range from the desire to conserve resources, to the desire to pressure importers to act on some issue of interest to the oil exporter.[11]

This assessment is important, not so much because it hypothesizes about the possibility of admittedly unpredictable political upheavals, but rather because it postulates the probability of an entirely predictable new oil policy in the event that an overthrow takes place. The assessment reflects postwar experience in the Middle East where conservative, Western oriented, governments have been replaced by radical, regionally oriented, or inward-directed governments every 10 years or so: the first ouster of the shah by Mossadegh in 1950, the beheading of King Feisal of Iraq in 1958, Mu'ammar Qadhafi's coup d'état against Libya's King Idris in 1969, and the Iranian Revolution of 1979. Few would predict the year or location of the next upheaval, but it is hard to deny the likelihood of adverse consequences for oil importers if such an upheaval takes place.

Some analysts have argued that oil will remain available regardless of who controls the Middle Eastern taps, but that argument ignores the most important questions about volume, price, and terms. The answers have been provided by repeated examples of reduced output, increased prices, and contract abrogation following past upheavals, and such experiences are likely to be repeated because of the political dynamics of such situations. Sparked by an aggressive search for identity, each upheaval has led to a government that emphasizes belligerent assertiveness rather than cooperative interdependence. That assertiveness is revealed in a state's foreign policy by its rejection of foreign ideas, its economic development policies, and its oil policy—the most important area to Middle Eastern countries. Therefore, revolutionary governments have adopted production levels and pricing policies that maximize their immediate revenues and leverage, even at the risk of damaging their longer-term prospects.

Although there have been no successful overthrows since the 1979 assessment, there have been serious incidents in Saudi Arabia (Shi'ite demonstrations and the seizure of the Great Mosque) and in Bahrain (the discovery of arms and explosives). This paper cannot assess the internal security situation in each country, but an outline of the sources of tension demonstrates that there is no room for complacency.

- The growing appeal of Muslim identification, after decades of alleged political subjugation, cultural assimilation, strategic manipulation, and economic exploitation, provides a rubric that can bring together such otherwise disparate elements as
  - —Western educated youth who are disenfranchised by the feudal political system,
  - —Conservative tribesmen who cannot accept the pace of change,
  - —U.S.-trained and armed military personnel who resent the U.S. strategic tilt toward Israel,
  - —Disappointed businessmen and job seekers whose unrealistic expectations can no longer be met.
- The increasing difficulty of dividing a shrinking economic pie encourages the politics of greed and envy and aggravates existing societal divisions such as those
  - —between Shi'ite majorities in several Gulf states and the Eastern Province of Saudi Arabia (where the oil fields are located) and their Sunni rulers,
  - —among tribes that enjoy favor with the ruler,
  - —among family factions seeking government contracts,
  - —between provinces or cities that share historic identification with ruling families and provinces.

Current Assessment by Henry Kissinger

These sources of tension are not new to the region, but the political and economic conditions for their exploitation have escalated markedly since the earlier Treasury assessments were made. Moreover, dissatisfactions with political orientation and oil policy have come together in a dangerous combination in recent months. The prospects for enduring cooperation between oil producers and consumers took a turn for the worse in January 1985 when the revolutionary regimes of Iran, Libya, and Algeria refused to accept the pricing proposal of the moderate regime in Saudi Arabia. The radicals lost out at Geneva but the verdict from the region is not yet in.[12]

Dr. Kissinger's February 1985 remarks emphasized the current dangers for moderate Arab oil exporters.

> Collapsing oil economies would strain moderate regimes whose stability depends on economic growth. Successor radical revolutionary regimes would then have the choice of causing a new oil crisis by shutting down oil production on the model of the early years of the Iranian revolution or of selling their oil and using the revenues to foment revolutionary disorder, following the example of Colonel Mu'ammar Qadhafi of Libya. Or they could do both successively.
>
> OPEC's effort to control prices, even when it fails, puts extraordinary pressure on the most moderate and responsible members of OPEC. For example, the oil income of Saudi Arabia has fallen from $110 billion in 1981 to below $40 billion in 1984, and it is likely to fall further in 1985. One does not have to agree with every decision of the Saudi government to consider its role over the past decade more compatible with Western interests than any likely alternative. And the political orientation of the Gulf states in the 1990s will continue to be a matter of preeminent interest to the industrial democracies. By then the exhaustion of currently known non-OPEC oil reserves and the cumulative impact of a slowly rising demand could well resurrect the energy shortage—especially if economic growth continues and the industrial democracies fail to push the development of alternative energy resources.[13]

The Risk Posed by Divergent Political Interests

History has repeatedly demonstrated that governments may curtail output or raise prices to achieve political goals—or fend off political pressures—even when there has been no internal upheaval. No exporter is immune from the temptation to exercise its oil leverage (witness the U.S. embargo of Japan following the invasion of China in 1937), but politically motivated supply curtailments are generally associated with the Arab-Israeli conflict, which triggered embargoes on three occasions.

Although Blumenthal issued his findings at a time of high hopes for resolution of that dispute, just three days after the signing of the Camp David agreement, he noted cautiously that,

> Despite the intervening years and strengthened relations with Middle Eastern nations, the United States cannot discount the

> possibility of another political disagreement with the region's oil exporters.[14]

Blumenthal's caution has been more than justified by developments since March of 1979.

- The promise of the Camp David Accord has given way to the frustration of resolving the ideological debate over Palestinian autonomy.
- The Israeli invasion of Lebanon and extensive battles with Syrian forces have served as reminders that Egyptian withdrawal from armed confrontation has not eliminated the threat of open Arab-Israeli hostilities. Such hostilities raise tensions and pressures for retaliation throughout the region.
- The assassination of President Anwar Sadat and the rise of terrorism have generated reluctance by moderate Arab leaders to adopt initiatives or accept risks designed to promote a negotiated settlement.
- The replacement of the shah by an assertively Muslim regime in Iran has strengthened potential Arab oil power and emboldened the most belligerent hard-liners.
- The expansion and consolidation of Israeli settlements on the West Bank (now over 40 thousand inhabitants at 114 locations) has created an urgency to resolve the problem before it is too late.

Current State Department Assessment

Despite continuing efforts to bridge the differences between Arab and U.S. views of the Palestinian issue, the divergence remains intractable at this time and seems likely to widen under pressures from the more hard-line oil exporters. The impact of these divergent political interests on future oil supplies is difficult to assess, but it is possible that increasingly frustrated Arab governments may turn once again to some form of oil leverage. While that leverage is not as great as it once was, the role of Arab and Iranian oil in world trade is still enormous. (See tables 5 and 6). In any event, use of oil as a political weapon is not dependent upon a willingness—or ability—to pursue the same tactics as in 1973. Instead of adopting open and concerted coercion, individual states could quietly choose, or be pressured, to tighten oil supplies as a reminder to the United States of the importance of Arab oil.

Although tighter supplies and higher prices would not serve the long-term global economic interests of the major Arab producers, a more confrontational oil policy might be the price required by the radicals for relief from immediate regional political pressures. As Secretary of State Shultz recently pointed out

> One of the great tragedies of the Middle East, in fact, is that the many moderates on the Arab side—who are ready to live in peace with Israel—are threatened by the radicals and their terrorist henchmen and are thus stymied in their own efforts for peace.[15]

The Risk Posed by Divergent Economic Interests

In the absence of dramatic events—war, sabotage, revolution, or embargo—simple recognition of divergent economic interests can prompt producers to take advantage of, or create, tight market conditions. Charles L. Schultze emphasized this component of oil import vulnerability in the Council of Economic Advisor's submittal to Secretary Blumenthal, saying,

> Even in the absence of interruptions of supply, continued high levels of U.S. imports threaten to induce substantial increases in the world price of oil in the 1980s exposing the United States to the risk of severe economic harm in the future.[16]

Although Schultze's timing underestimated the impact of worldwide recession, conservation, substitution, and exploration, the exporting nations are not as powerless as many would like to believe. Most analysts concede that rising demand will restore producer power in the 1990s, but that distant prospect provides little hope for hard-pressed oil exporters during the next five years. This paper will, therefore, examine the options available to oil exporters over the next few years.

Although oil exporters cannot ignore market forces in their pricing decisions or significantly influence demand (except at prices of perhaps $15 per barrel, which are unacceptably low from their point of view), they can manipulate those same markets through their output decisions. Note that this discussion contains no reference to the Organization of Petroleum Exporting Countries because formal membership has proven to be an inaccurate measure of the degree of commitment to self-interest and discipline. Thus, while many commentators gloat over the alleged indiscipline of individual OPEC members, few have remarked on the cooperative restraint of non-members. For example, Mexico, Egypt, Brunei, and Malaysia have all announced production curtailments to tighten supplies and support prices at levels above those that would prevail in a truly competitive market.[17]

Although such collaboration has proved erratic, the OPEC countries possess the potential to set world export prices at even higher levels during the time that would be required to find and develop replacement supplies. Table 16 reveals, for example, that half of U.S. imports still come, directly or indirectly, from OPEC sources. If Mexico, a collaborator with OPEC, is added, it becomes clear that almost two-thirds of U.S. imports are subject to price manipulation by exporting countries.

The principal Arab exporters—Saudi Arabia, Kuwait, and the United Arab Emirates—have worked against a confrontational price policy in recent years because they have seen a convergence of economic, and other, interests with the United States as the world's largest individual importer. They have argued that lower prices will revive oil demand in the United States and other industrial countries. Although they cut official prices by $5 per barrel in March 1983, the more financially hard-pressed producers feared that such reductions

TABLE 16

The Threat of Producer Manipulation of Output and Prices on U.S. Imports (Millions of barrels per day)

	1974	*1978*	*1984*
Total U.S. imports	5.8	8.7	5.4
Direct imports from OPEC	3.5	5.6	2.3
Indirect imports from OPEC (est.)	0.9	1.6	0.4
Total imports from OPEC	4.5	7.2	2.7
OPEC as a % of total U.S. imports	75%	83%	50%
Imports from Mexico	0.01	0.31	0.74
Imports from Egypt			0.01
OPEC & collaborators as a % of total imports			64%

Source: Energy Information Administration Statistics.

would increase the need to cheat on quotas and volumes because the reductions would diminish OPEC revenues without significantly reviving demand.

The skeptics proved to be right for a combination of reasons. Delayed reaction to the earlier price increases, smaller elasticities in growth than anticipated, the stronger dollar, large inventory drawdown, and increased consumer taxes in France and Japan all affected demand. In any event, market forces continue to buffet oil exporters. When the Saudis and their allies proposed to cut prices again in January 1985, the Libyans and Algerians joined the Iranians, who had formally disassociated themselves from the March 1983 reduction, in renouncing this second reduction in OPEC history. In effect, those three countries signalled their desire to resume the aggressive policies of the 1970s by reducing production and raising prices. Their logic is simple: a further 10 percent reduction in OPEC production from current levels of 15 million bpd to 13.5 million bpd would forfeit $42 million per day in revenues on volume (1.5 million bpd times $28/bbl) but would permit price increases of $5/bbl, thereby recovering $67 million in revenues on price (13.5 million bpd times $5/bbl). While the hawks admit that such a strategy might hurt demand for OPEC oil in the long run, they contend that it would provide a net $25 million per day in immediate revenues and thus reduce further cheating on quotas and prices.

The outcome of that rising debate will be affected by the extent to which Saudi Arabia and its immediate allies continue to see a convergence of interests with the United States. The outcome is not a foregone conclusion, for, even setting aside volatile political issues such as U.S. Middle East policy and arms sales, developments could reawaken awareness of divergent economic interests.

- Immediate Saudi revenue requirements are threatened by continued pressures, encouraged by the United States, for lower export prices.[18]
- Longer-term Saudi hopes for expanded oil demand, already threatened by the strength of the dollar, would be shattered if the United States elected to impose a crude oil import fee as a budget-balancing measure.[19]

Current Iranian Assessment

If the Saudis decide, for a combination of reasons, that they should abandon their exports to cooperate with the United States on oil prices, the balance within OPEC will probably shift toward the policies long advocated by Iran.

> We believe that nothing is wrong with a gradual decline in the demand for OPEC oil if it is accompanied by an equal or faster rate of price rise so that export revenues do not decline.[20]

The Risk Posed by Interdiction or Seizure in a General War

The ultimate threat to oil imports is their vulnerability to interdiction or seizure by Soviet forces in a general war. Although it is beyond the scope of this paper to compare the relative capabilities of U.S. and Soviet forces to protect or attack far-flung facilities and sea lanes in 1975, 1979, and 1984, Secretary of Defense Weinberger recently assessed the global reach of Soviet power in his *Annual Report to the Congress:*

> Having long declared its global interests, the Soviet Union has now developed the military reach of a true global power. The Soviets have transformed their navy's role from limited coastal missions toward expansive "blue water" capabilities, have increased their ability to project force quickly to regions far from their borders, and have acquired access to naval facilities in crucial areas of the world. . . .
>
> In some key areas, most notably the oil-rich Persian Gulf region, Soviet power projection would not require wide-ranging airlift or naval operations. Soviet ground and tactical air forces are directly available for cross-border operations. Although the rugged terrain in the area and logistical challenges would impose constraints on military operations, the Soviets have enhanced their ability to project power into the region with the recent modernization of their ground and air forces in the military districts opposite Turkey and Iran. Finally, with their growing presence in Afghanistan, Syria, Libya, South Yemen, and Ethiopia, the Soviets have, in effect, nearly encircled the Persian Gulf region—the location of three-fifths of the world's proven oil reserves. That is why we and our allies must have the capability to deter any Soviet attempt to seize the oil fields, or to deny us access to and from them, and why we must acquire the capability to project our defenses to this vital area quickly and effectively.[21]

Summary

Middle Eastern oil exports, vital to the needs of U.S. allies and to the avoidance of another world price explosion, remain subject to a range of risks that appear more threatening now than they did when the earlier assessments were made.

- The risk posed by overt regional hostilities has been demonstrated for the first time by the Gulf war, which threatens to expand at any moment.
- The risk posed by covert terrorism and sabotage has been dramatized by the car bombs used in the Middle East over the past several years.
- The risk of internal upheaval is increased by the spread of Muslim fundamentalism and by the dangers of reduced revenues.
- The risk posed by divergent political approaches to the question of Palestinian autonomy appears more urgent than it did during the euphoria of the Camp David agreement.
- The risk of divergent economic interests is increased by the growing split within OPEC and by developments that may encourage Saudi Arabia to adopt a less cooperative policy toward the United States.
- The risk posed by improved Soviet military capabilities is judged by the Pentagon to present a real threat.

Notes

1. 44 Federal Register 18818 (1979), 18828.
2. Ibid., p. 18825.
3. Based upon *Petroleum Intelligence Weekly* annual estimates.
4. *Report of the Secretary of Defense to the Congress on the FY 1985 Budget, FY 1986 Authorization Request and FY 1985-89 Defense Programs* (February 1, 1984), 19.
5. *United States Military Posture - FY 1985* (Washington, D.C.: GPO).
6. Henry A. Kissinger, "Pressure Points in the Gulf," *Washington Post*, February 5, 1985.
7. 44 Federal Register 18818 (1979), 18828.
8. *Middle East Economic Survey* (December 19, 1973), C1-C3.
9. U.S. Department of State, releases of Shultz's speeches, "U.S. Government and Business: Our Common Defense Against Terrorism," February 4, 1985; "Terrorism and the Modern World," October 25, 1984; "Terrorism: The Challenge to the Democracies," June 24, 1984; "Terrorism: The Problem and the Challenges," June 13, 1984.
10. U.S. Department of State, *Patterns of Global Terrorism* (Washington, D.C.: GPO, September 1984), 1.
11. 44 Federal Register 18818 (1979), 18825.
12. See, for example, *Middle East Economic Survey* (February 4, 1985), A1-A4.
13. Kissinger, "Pressure Points."
14. 44 Federal Register 18818 (1979), 18820.
15. "Terrorism and the Modern World" (October 25, 1984), 4.
16. 44 Federal Register 18818 (1979), 18850.
17. See, for example, *Middle East Economic Survey* (December 31, 1984; January 7, 1985; and January 21, 1985).
18. "Hodel Calls on OPEC to Align with Market Price Level," *Middle East Economic Survey* (March 11, 1985), A7.
19. "Make OPEC Pay Our Debt," *New York Times*, February 1, 1981.
20. "Views of the Iranian Delegation on OPEC Long-Term Strategy," a paper presented at November 15, 1983 Ministerial Meeting,

reproduced in *Petroleum Intelligence Weekly* (November 21, 1983): 5-6.

21. The Secretary of Defense's *Annual Report to the Congress - Fiscal Year 1985*, (February 1, 1984), 25-26.

8

The Availability of Alternatives or Protective Measures

This chapter will examine whether the nation now has adequate alternatives or protective measures that were not available in 1974 or 1978, by focusing on the prospects for immediate relief in an emergency and addressing the outlook for longer-term security. A detailed examination of the important components reveals a future that is considerably less optimistic than the prevailing general impression.

The Availability of Unused Production Capacity

Although the world's leading exporters are producing some 12 million bpd less than they did in 1977, calculations of presently unused capacity and of its future availability must be approached with considerable caution. (See table 17.)

- The peaks of oil production preceding a glutted market are an invalid indicator of present producing capacity because financially strapped exporters are unlikely to invest scarce capital in the maintenance of unused surface facilities or in the replacement of unexploited reservoir potential. Other exporters, especially Libya, have suffered additional attrition from the withdrawal of foreign expertise.
- Estimates of current unused capacity are extremely imprecise, reflecting definitions more than facts. Thus, *Petroleum Intelligence Weekly* (PIW), the leading trade journal, places 1984 unused OPEC capacity at 10.1 million bpd while the CIA places it much higher, principally because it ignores the war-imposed limitations on Iranian and Iraqi exports.[1]
- Many of the world's industrialized producing countries, including the United States, Great Britain, Norway, Canada, and the USSR, attempt to maximize production so there is

TABLE 17

Unused Oil Production Capacity* (Millions of barrels per day)

	1984
Saudi Arabia**	4.21
Iran	1.28
Iraq	.14
Kuwait**	.84
United Arab Emirates, Abu Dhabi	.90
United Arab Emirates, Dubai	.05
United Arab Emirates, Sharjah	neg
Qatar	.22
Venezuela	.62
Nigeria	.81
Libya	.57
Indonesia	.17
Algeria	.27
Gabon	.05
Ecuador	neg
Mexico	.10
Oman	.05
Malaysia	.04
Brunei	.03
Egypt	.01
Total	10.4

Source: Petroleum Intelligence Weekly statistics.
*Includes condensate
**Includes half of the Neutral Zone

virtually no unused capacity except in OPEC and its cooperating countries.

◆ The CIA and PIW estimates essentially agree that the only significant volumes of unused OPEC capacity (measured as the difference between maximum sustainable capacity and 1984 output) outside the Middle East and North Africa are in Venezuela, Nigeria, and Indonesia, with a total of about 1.65 million bpd available as follows:

	CIA (est.)	PIW (est.)
Venezuela	700,000 bpd	600,000 bpd
Nigeria	800,000 bpd	800,000 bpd
Indonesia	180,000 bpd	230,000 bpd

- Non-Arab collaborators with OPEC, including Mexico, Malaysia, and Brunei, might contribute an additional 200-300 thousand bpd of unused capacity, but the total available outside the Middle East and North Africa is unlikely to exceed 2 million bpd.

Current Assessment

OPEC members control at least 95 percent of the world's unused capacity, and the Arab states, plus Iran, control 80 percent. If those groups were determined to employ their oil power, it is unlikely that this unused capacity would be made available more readily in 1985 than it was in 1973 and 1979 when significant volumes were withheld to support political and economic objectives.

The Availability of Oil in Storage

Acting under authority of the Energy Policy and Conservation Act of December 1975, the government spent nearly $17 billion on the creation of a Strategic Petroleum Reserve. Although it has been a sound public investment in greater energy security, it is no panacea. A number of limitations are worth noting.

- Implementation of the proposed SPR moratorium at the end of the current fiscal year will freeze the volume at 487 million barrels, just less than half the 1 billion barrel target authorized by Congress in 1978 and only two-thirds of the 750 million barrels for which detailed plans were approved. Most arguments favoring the freeze cite the adequacy of 487 million barrels to supply 90 days of current imports. That level was approved by the International Energy Agency (IEA) as the miniumum necessary to fulfill the SPR's original role as a supply of last resort, however, it may not be adequate to fulfill the additional role of dampening emergency price explosions that the U.S. government announced a year ago. That new role is exceedingly important, but it depends upon the existence of an SPR, which is large enough to allow early release without cutting into the emergency cushion that must be held back to avoid the consequences of shortages if the supply crisis is extended.

- Government-owned stockpiles account for only part of the stored oil that planners are counting on to supplement reduced imports in the event of an emergency. The other—and historically larger—portion of oil in storage is provided by commercial inventories, but reduced refinery margins, high interest rates, declining crude oil prices, and greater confidence in supply availability have produced a fairly steady drawdown of private stocks since 1981. As a result, commercial inventories at the start of 1985 equal about 65 days of consumption, and only about 15 percent of these would be available to make up a shortfall because refiners need a 55 day cushion to maintain smooth operation in normal circumstances.[2]
- The United States is an integral part of a worldwide oil supply and price system, so the adequacy of U.S. stocks must be assessed within the context of world stocks. According to one recent analysis, privately held OECD stocks were the equivalent of 71 days of requirements at the end of 1984, down from 73 days at the end of 1983, 88 days in 1982, 84 days in 1981, 83 days in 1980, and 77 days at the end of 1979.[3] In fact, they were close to the historic low of 65 days just prior to the second oil shock at the end of 1978.
- The Pentagon remains concerned about the inadequacy of its petroleum stocks. In the absence of a specific Defense Petroleum Reserve, the president might have to designate large volumes of the Strategic Petroleum Reserve for military use, thereby limiting the volume of oil available to avoid an adverse impact on the ground economy.

Current Assessment

Although the occasional physical shortages of the 1970s could probably be avoided today, it is far from clear that significant price increases have been eliminated in the event of a supply disruption.

The Availability of Savings from Reduced Oil Consumption

Reductions in discretionary oil consumption present a third means for meeting U.S. essential oil requirements in an emergency supply disruption, however, the situation has changed since the 1970s.

- Voluntary reductions are less readily available because any wasted energy has already been eliminated from the system through investments in fuel efficiency and conservation. For example, the Department of Transportation told the Treasury in 1979 that drivers would voluntarily cut their discretionary auto use (then 40 percent of total) by 33 percent and that home owners would voluntarily reduce their heat use by 5 percent.[4] Changed life-styles and greater efficiencies make the achievement of such savings considerably less likely today.

- Mandatory reductions are now politically unacceptable because of public and governmental awareness of the enormous costs and distortions produced by price and allocation controls in the 1970s. Therefore, the proposals submitted by the Department of Energy to the Treasury in 1979—standby allocation regulations; a gasoline rationing plan; heating, cooling, and hot water restrictions; weekend closures of gasoline distributors; boiler efficiency requirements; and restrictions on illuminated advertising and gas lighting—would be entirely inappropriate in 1985.[5]

Current Assessment

Although it is impossible to quantify the change, the prospective savings from reducing discretionary petroleum use during an emergency appear to be more limited than they were when the 1975 and 1979 assessments were made.

The Prospects for Increased U.S. Fuel Switching

Although fuel switching from oil to other energy sources presents a longer-term opportunity for reducing oil imports, the EIA's January 1985 forecast of future sectoral contributions offers little prospect for dramatic improvement, despite its incorporation of oil prices that many analysts consider to be too high. (See table 18.)[6]

- Oil's share of total energy consumption is projected to decline by only 2 percentage points between now and 1995, indicating that most of the fuel switching from oil has already taken place.
- Coal's share has increased dramatically since 1974, but it is expected to gain only an additional 2 percent by 1995. That increase comes largely at the expense of domestic natural gas, so there is no overall improvement in energy security.
- Although nuclear power was once expected to meet 12 percent of total energy requirements in 1985, the EIA now projects that nuclear power will supply only 8 percent in 1995.

TABLE 18

Contributions to U.S. Energy Consumption

	1974	1978	1984	1990	1995
Oil	46%	49%	42%	40%	40%
Natural Gas	30%	26%	25%	23%	21%
Coal	17%	18%	24%	25%	26%
Nuclear	2%	4%	5%	8%	8%
Hydroelectric	5%	4%	5%	5%	5%
Other	0.08%	0.08%			
Total Quads	72.5	78.0	74.8	83.5	90.1

Source: Energy Information Administration statistics.

- The Department of Energy submitted to Secretary Blumenthal a forecast that synthetics and renewables would supply 1.7 million bpd of oil equivalent by 1985, but their actual contribution has been much less.[7]

Current Assessment

Although fuel switching has contributed significantly to the current oil surplus, future opportunities now appear much more limited than the optimistic forecasts of Project Independence (1974) and the National Energy Plan (1977), which were built into the assessments of Secretaries Simon and Blumenthal.

The Prospects for Reducing Dependence on Middle Eastern Oil

An examination of the free world's proved oil reserves indicates that the importance of Arab and Iranian oil exports can only increase significantly as exports from other suppliers inevitably decline. (See table 19.)

- The present breakdown of non-U.S. and non-Soviet reserves is[8]

Middle East and North Africa	74%
Western Hemisphere	15%
Western Europe	6%

TABLE 19

Location of Proved Oil Reserves outside the United States (Billions of barrels)

	1974	*1978*	*1984*
Canada	9.4	6.0	7.1
Mexico	13.6	16.0	48.6
Venezuela	15.0	18.0	25.8
Ecuador	2.5	1.2	1.4
Argentina	2.3	2.4	2.3
Brazil	0.8	1.2	2.0
Total Western Hemisphere*	50	47.2	90.4
Great Britain	15.7	16.0	13.6
Norway	7.3	5.9	8.3
Total Western Europe	25.8	24.0	24.4
Angola	1.2	1.1	1.8
Congo	4.9	0.3	0.5
Nigeria	20.9	18.2	16.7
Total Sub-Saharan Africa	29.3	21.8	20.6
Australia	2.3	2.1	1.4
Brunei	2.5	1.5	1.4
India	0.8	2.9	3.5
Indonesia	15.0	10.2	8.6
Malaysia	0	2.8	3.0
Total Asia-Pacific	21.0	20.0	18.5
Abu Dhabi	30.0	30.0	30.5
Dubai	2.4	1.3	1.4
Iran	66.0	59.0	48.5
Iraq	35.0	32.1	44.5
Kuwait	81.4	69.4	92.7
Oman	6.0	2.5	3.5
Qatar	6.0	4.0	3.4
Saudi Arabia	173.1	168.9	171.7
Syria	1.5	2.1	1.4
Algeria	7.7	6.3	9.0
Egypt	3.7	3.2	3.2
Libya	26.6	18.2	21.1
Tunisia	1.1	2.3	1.5
Total Middle East & North Africa	443.0	400.0	433.2
Total World (except US & USSR)	569.0	513.0	587.1

Source: Oil and Gas Journal statistics.

*Totals include other minor producers.

Sub-Saharan Africa	4%
Asia-Pacific	3%

- Despite enormous production rates over the past decade, Middle Eastern exporters have replaced all but 2 percent of their proved reserves through new discoveries, and the probable reserves are thought to be significantly higher, especially in Iraq.
- The only truly bright spot outside the Middle East is Mexico, which has claimed almost a fourfold increase in proved reserves over the past 10 years. The U.S. Geologic Survey, however, believes that figure to be overstated by 50 percent.

Current Assessment

Exploration efforts over the past decade have led to the discovery of large oil fields outside the Middle East, but much of their potential has already been consumed as a result of rapid development and production policies. For example, if measured against current production rates, the proved reserves of the Middle East would support output for 100 years while those of Britain would support output for 15 years and those of Indonesia output for 19 years. Although Mexico contains significant potential, there is no justification for the hopes of the 1970s that this oil would provide a panacea for U.S. requirements. In fact, the Mexican government is determined to avoid another oil boom and to limit its dependence upon U.S. oil markets to 50 percent of total exports.

The Prospects for Enhancing the Security of Middle Eastern Oil

While efforts to enhance the security of Middle Eastern oil are useful, such efforts will not provide absolute protection against the multiplicity of threats.

- When fully implemented, the expenditures on the Central Command will greatly enhance the accomplishment of its only established mission—the defense and deterrence against an overt Soviet move into the Persian Gulf region—but that may be the least likely threat to oil exports.
- Although the Saudis, Emiris, and Kuwaitis are receiving sophisticated equipment, few military analysts believe that they could defend themselves against determined aggression by either Iran or Iraq. Nor is it likely that circumstances—in

the United States or the region—will encourage the stationing of U.S. forces on the Arabian Peninsula to assist in that task.

- The current preoccupation with avoiding the Strait of Hormuz has led to the construction and expansion of pipelines across Saudi Arabia to the Red Sea. But past evidence of pipeline vulnerability and the mining of the Red Sea in 1984 demonstrate that pipelines do not enhance supply security.

Current Assessment

Military hardware and defense support can provide little protection against terrorist incidents and internal upheaval—the most likely threats to oil supplies—in countries that lack controllable borders, reliable intelligence, institutional loyalties, available safety valves, or established national identities.

Summary

Past efforts to develop emergency protection and long-term relief from oil import vulnerability provide no basis for the prevalent complacency, and the prospects for further gains now appear less promising than they did during the 1970s.

- Although reduced oil consumption has led to as much as 10 million bpd of currently unused production capacity, 95 percent is controlled by OPEC and 80 percent is located in the Middle East and North Africa.
- The creation of the Strategic Petroleum Reserve has been essentially offset by a worldwide drawdown of commercial inventories.
- Investments in energy efficiency, changed life-styles, and rejection of mandatory controls have reduced the potential for oil savings during an emergency.
- Most of the realistic potential for reducing oil's share of U.S. energy supplies has already been achieved, according to U.S. government forecasts.
- The rapid success in finding and developing new oil fields outside the Middle East has already tapped the largest and most economically attractive prospects.
- Efforts to enhance the security of Middle Eastern facilities cannot protect them against terrorism and internal upheaval.

Thus, although it is important to develop such essentially defensive measures, they are no substitute for the aggressive development of U.S. petroleum supplies.

Notes

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1. *Petroleum Intelligence Weekly* (August 20, 1984); *International Energy Statistical Review* (December 18, 1984).

2. The large volume is generally unavailable for sale due to structural limitations (for example, tank bottoms, pipeline fill, and refinery fill are classified as "unavailable inventory") or operating limitations (for example, the "working inventory" that is necessary for supporting delivery cycles, insuring against routine system interruptions, and facilitating product blending). See *Petroleum Inventories and Storage Capacity*, a report by the National Petroleum Council, June 1984.

3. Krapels, "A Roadmap to World Oil Stocks in the 1980s," *Petroleum Intelligence Weekly* (February 11, 1985).

4. 44 Federal Register 18818 (1979), 18844.

5. Ibid., p. 18839.

6. The EIA, *Annual Energy Outlook* (January 1985), Table A1, "Yearly Supply and Disposition Summary of Total Energy."

7. 44 Federal Register 18818 (1979), 18839-18840.

8. Proved reserves as published by the *Oil and Gas Journal*. Shares do not total due to independent rounding.

2. The constituent threats to Middle Eastern oil supplies—still the dominant source of exports—are considerably worse in the mid-1980s than they were in the 1970s when the findings were made.
3. Although the decline in world consumption and partial completion of the Strategic Petroleum Reserve have created a cushion composed of unused production capacity and government owned storage, their availability and adequacy are highly uncertain in times of an oil shortfall.
4. It is likely that U.S. and world dependence upon Middle Eastern oil will grow rapidly and that the prospects for their security will deteriorate.
5. Therefore, legislation to encourage the development of U.S. crude oil, natural gas, and natural gas liquids is every bit as justified today as it was during the 1970s.

Although the United States has been granted a respite from crisis, this analysis has demonstrated that the fundamental energy security situation of the United States has not improved to the extent that the U.S. can disregard the concerns of the 1970s. Therefore, the national security justification for developing domestic resources is every bit as compelling and urgent for Treasury Secretary James Baker in 1985 as it was for his predecessors in 1975 and 1979.

Kissinger wrote in February 5, 1985 *Washington Post* that the United States must utilize the current respite wisely

> Otherwise [Americans in] the 1990s, once more facing an energy shortage, may well curse the blindness and the lack of foresight of current leaders.

9

Conclusion

The assessments of oil import vulnerability, prepared by Treasury Secretaries Simon and Blumenthal, revealed a number of precepts that we have attempted to apply to the current situation.

- Although the sudden oil shocks of 1973-1974 and 1978-1979 were the immediate causes of governmental concern, the ordinary business-as-usual burden imposed when oil imports are available is as threatening as the extraordinary or emergency impact when oil imports are disrupted.
- U.S. vulnerability must be assessed in terms of allied relationships, adversarial perceptions, and worldwide interdependence, as well as individual U.S. import statistics.
- While military preparedness is a key element of national security, so are foreign policy flexibility, strategic balance, economic growth, trade relationships, and financial stability.
- Past experience has demonstrated that the level of oil exports and prices has been affected by deliberate decisions in the pursuit of economic or political self-interest, as well as by unplanned events such as regional conflicts, internal instability, terrorist activities, and general war.
- The long lead times required for energy development demand that oil import vulnerability be assessed not only in terms of current volumes, percentages and costs, but also in foreseeable growth, the immediate availability of alternative oil supplies, and the longer-term availability of alternative energy sources.

Applying those precepts to the current oil import situation leads to the following findings:

1. Although the burden of oil imports has been somewhat reduced since imports peaked in 1977, the constituent vulnerabilities are as bad or worse than they were in 1974 and 1978, the years on which the earlier Treasury assessments were based.

I will attempt to hit the high points of that study and to address several additional questions which Senator Bradley raised.

With respect to the high points, I would note that in combating the complacency about energy right now, I would urge Congress to apply the extremely broad definition of national security which was employed by Secretaries Simon and Blumenthal, and which in fact is mandated by Congress in the Trade Expansion Act of 1962. The breadth of that definition is demonstrated by the fact that those earlier assessments included lengthy inputs from not only the Department of Defense but also from the Departments of State, Commerce, Labor, Interior, Energy, Transportation, as well as the CIA, the Federal Reserve Board, and the Council of Economic Advisors.

A careful reading of those earlier assessments raises a number of guidelines and warnings which should be applied in approaching the subject of energy security. In the interest of time, I will skip over most of that which is covered in the prepared statement. But I would urge you to be very skeptical of some of the database that you get. Definitions such as OPEC are absolutely meaningless if other countries are collaborating, as Mexico is, with OPEC. To simply define the problem in terms of OPEC and non-OPEC is unrealistic, and I would urge that you watch for those things as you go through it.

Although it is difficult to distinguish cause and effect, I find it organizationally useful to address the problem as follows: First, I look at the extent of the vulnerabilities and burdens at the consuming end of the pipeline; then I look at the extent of the risks and threats at the exporting end of the pipeline; and finally, I look at the prospects for immediate and future relief. And just reading from my summary quickly in this regard, in comparing the situation today with that which prevailed in the 1970's, my own conclusions were as follows: "The military burden is much greater in terms of the mission added in 1980 to protect the Persian Gulf. The foreign policy burden has been significantly reduced if measured by U.S. dependence upon Arab and Iranian oil, but only marginally reduced if measured by allied and world dependence upon those suppliers."

The strategic burden is much greater because of the growing gap between the United States and the Soviet Union in petroleum production. The economic burden of a supply disruption depends on the circumstances but is foreseeably worse now than it was at an earlier date, but the economic burden of continued supply, although partially relieved in the United States by reductions in OPEC prices and import volumes, remains the largest single component of our growing balance-of-payments deficit. Last year, energy imports cost $63 billion out of a total of $123 billion. That is a continuing burden, regardless of whether there is an interruption or not.

And just summarizing quickly the nature of those threats and risks applicable to see much of the world's reserves and export capacity located in the Middle East, who can say today that the situation is more stable in that area than it was during the 1970's? Clearly, the risks and the threats are as great.

With respect to relieving these burdens, yes, we have a Strategic Petroleum Reserve, but our private inventories have been drawn down about as rapidly as our Strategic Petroleum Reserve has been increased. And there are a number of other areas that indicate that there is no cause for complacency.

Now I would like to address some of the questions that Senator Bradley raised and which have been raised by others in the hearings over the past few weeks.

Producers of other forms of energy are said to be critical of preferential treatment of oil and gas. I have long urged policymakers to continue support for other forms of energy, including coal, renewables, and synthetic fuels, we must not lose sight of the preeminant role played by oil and gas in our overall energy supply.

Today, oil and gas meet 66 percent of total U.S. energy demand, down only 10 points over the last decade since the crisis, and it will still be above 60 percent, according to the government's forecast, a decade hence.

So, while we hope to increase the contribution of other sectors, let's be sure that there are cost effective, politically acceptable, and environmentally desirable alternatives before we reduce U.S. oil and gas production.

Another criticism which is made is by nonenergy industries which have criticized preferential treatment, arguing for example that steel and automobiles are also critically important to the nation's economy. I would not contest that for a minute, but the bulk of the world's steel capacity and iron ore reserves are not located in the volatile region of the Middle East, and there is no evidence that the price of automobile imports is set by a cartel.

Some market purists have argued against so-called "subsidies" for domestic production when foreign oil is said to be cheaper. I am also a free marketeer, but let's recognize that we are also subsidizing imported oil to the tune of upwards of $47 billion in this year's Defense Budget to project military power in the Persian Gulf region, and a total of $723 billion over the next decade in that military budget.

Others decry, as did Senator Bradley this morning, the so-called "drain America policy," and argue that we should save our domestic reserves until the day when oil prices go back up. I am the first to proclaim that world prices will go up much sooner than many people think; but those who urge a deliberate reliance on imports should recognize that the current level of imports already costs over $60 billion, half of our total deficit, and three times the deficit that we run for automobiles, which is the next largest item in our deficit.

Moreover, increased U.S. imports would infuriate our allies, embolden our adversaries, and encourage OPEC to raise prices.

Finally, I would like to address the suggestion that imposition of an oil-import fee would provide more encouragement to domestic production than tax incentives. I leave it to the tax experts to debate whether this is currently true under the so-called windfall profits tax, and to the legislative strategists on whether this is prospectively likely under new legislation. In other words, would producers be allowed to keep any incremental value; I very much doubt it.

I will, however, state my own conviction that OPEC is by no means dead, and the surest way to infuse it with the political will to revive discipline would be to attempt to transfer revenues that previously went to OPEC to the U.S. Government. That would certainly infuriate them to the extent that they would get their act together, in my judgment.

In conclusion, then, I would only state what is obvious to me: The reasons for encouraging U.S. oil and gas production are as compelling today as they ever were.

Thank you.

Senator WALLOP. Thank you, Mr. Schuler.

Mr. Lichtblau.

STATEMENT OF JOHN H. LICHTBLAU, PRESIDENT, PETROLEUM INDUSTRY RESEARCH FOUNDATION, INC., NEW YORK

Mr. LICHTBLAU. Thank you very much, Mr. Chairman. As per your request, I will limit my comments largely to existing tax legislation as it affects the oil and gas industry.

As you know, the oil industry is granted several special tax deductions which are favorable and has imposed upon it a special tax provision which is unfavorable; I am talking about the intangible drilling costs [IDC] and percentage depletion on one side, and, of course, the windfall profits tax [WPT], which is unique to the oil industry, on the other side. A very rough calculation would show that the IDC expensing saved the industry perhaps $5 billion a year in recent years. The depreciation allowance is much less. On the other side, there is the windfall profits tax which probably cost the industry $5 billion in 1985 and approximately $6.5 billion last year. So, I am not only talking about the favorable tax provisions, but also about those special tax burdens that other industries do not have.

Let us first look at the rationale for both these tax provisions. If you look at the expensing provisions, the percentage depletion and the IDC's, I think they represent the recognition of the high capital-intensity and the high risk of the oil industry. In the upstream sector, in the last few years something like $84 billion a year has been spent by the oil industry. Not all of this, of course, is capital expenditure, but I would say some $50 billion a year went into the capital sector to find, develop and produce crude oil and gas. And of course the intangible drilling expenses are in that $50 billion.

These costs have increased sharply. The capital intensity of the U.S. oil and gas industry has therefore increased, because the volume of production either in oil or in gas has not increased commensurately. So you have an increasingly capital-intensive industry.

I think it should also be pointed out that the intangible part of these expenditures has no salvage value, which means they are not really capital expenditures, because there is nothing tangible there, as the name implies, that you can sell or transfer.

I think what this provision does, it puts the high capital-intensive industries such as oil on a somewhat more equal tax footing with industries that have a much lower capital-intensity and much higher, fully deductible current expenditures such as labor costs, rentals, and so on. I think true tax neutrality requires differential tax treatments for different types of industries, whether they are high capital-intensive or high labor-intensive, or high scientific intensive, and so on.

So, tax neutrality does not mean exactly the same treatment for all types of industries.

The other special aspect is of course the higher risk, unusually higher risk, character of the oil-producing industry. All businesses are risky, but when you consider the risk of an individual U.S. oil producer drilling a wildcat well, and the chance being 85 percent that that wildcat well will be dry, that is a pretty high risk. And if you look at all exploration wells, you still have 4-to-1 odds that when you drill those exploration wells, you will come up with a dry hole. When you then consider that the average cost of an exploration well is about $700,000, you can see that the stakes are extremely high. There are not many industries where you plunk down $700,000 and the odds are strongly that you will come up with nothing. But this is the case in the oil and gas industry.

Now, of course the other side of this is that the rewards for those who find oil and gas are usually also very high. But unless a large part of the risk money for exploration can be generated from the cash-flow of previous successes, substantially less risk money would be available. And I think the expensing of IDC's and the depletion allowance help provide this risk money.

The question has been raised here today whether the price mechanism wouldn't provide the same incentives to search for oil and gas as these two special tax provisions. I would say that if the U.S. oil market were self-contained, that would be true; if as the result of a change in tax provisions less drilling would take place, less production would take place, and the price of oil would then go up, it would offset the loss of the tax deduction. But as it is, we have been a major net importer for the last 25 years, and in all probability we will continue to be a major net importer for the next 25 years.

The price of oil is determined at our border. It is based on the cost of foreign oil landed in the United States. If oil production in the United States were to decline, it would have no impact on the domestic price of oil, it would merely increase the volume of imported oil. And imported oil, for the time being, is controlled largely by the OPEC cartel, and as Dr. Schuler says, the cartel is not dead—sick, but it is not dead.

Now let us look for a moment at the other tax provision, the negative one, the WPT. The initial reason for it was that the price of oil, as we all remember, rose by something like 1,000 percent from late 1973 to early 1981 because of the OPEC cartel, and it was argued that oil which was found—profitably found—when the price of oil was $3 and $5 should not get the advantage of a cartel price that was 1,000 percent higher. And for that reason, the decontrol of oil prices was tied legislatively to the windfall profits tax.

Now, I think this argument made sense for old oil which had been found prior to the imposition of the tax. It never made any sense for new oil whose production costs had not yet been established. So, as more and more of the oil is new oil, the windfall profits tax makes less sense. Now, the burden has been reduced because of the formula, but as I said, $5 billion in 1985 is not a small amount, and the Treasury has estimated that between now and 1990 when the tax expires it will collect an average of $2.5 billion a year. And yet you are talking about a tax which was justified on the basis of very high prices that were certain to rise further; and you have a real situation where prices have declined by 20 percent in the last several years in nominal dollars, 30 percent in real dollars, and all the expectations are that they will decline further. So the philosophy under which this tax was imposed has ceased to exist.

Another factor is, what have all these tax features, these tax provisions, done to the oil industry's relative effective corporate tax rate vis-a-vis that of other industries? Does the oil industry pay less; does it pay more? The answer is fairly clear. All the studies that have been made show that the oil industry's effective tax rate for the last 5 or 6 years at least has been higher than that of American industry in general. So, despite the fact that there are these tax provisions which are considered favorable, the effective corporate tax rate of the U.S. oil industry is higher than the effective tax rate of all American industry. And all of these tax calculations are made without including the windfall profits tax, which would raise it even further.

I think it is important to establish that, because it wasn't always the case. As you look back into the early 1970's and the 1960's, the oil industry's tax rate was lower than that of other industries. There is a widespread impression that this is still the case, but it is an erroneous impression.

Well, what is the national interest in all of this? Obviously, we see that there is more oil being produced as the result of a tax provision, which is under controversy right now, and the key national issue is really a national security issue: Do we want to have more oil, that is, maximize our domestic oil production and gas production, or is it immaterial whether we have more domestic or use more foreign oil. And I think there are these answers to this:

The industry has been very successful in reducing our oil import dependency rate from 44 percent in the late 1970's to as little as 29 percent currently. Part of this has been due to conservation, but a good part has been due to increased production. I would like to point out specifically that in the lower 48, where production declined rapidly year after year in the 1970's, it has been increasing since then because of a very substantial increase in drilling activities. It is now 100,000 barrels-a-day higher, against all forecasts, than it was in 1980. And I think without that massive increase in drilling, this clearly would not have happened. Unless we can maintain this drilling effort we will see a decline in production; in fact, there probably is going to be a decline anyway because of resource depletion, but the massive drilling effort can slow down this decline, and this is, of course, in the national interest. Expensing of IDC's and the percentage depletion are bound to be a major factor in maintaining the required drilling rates.

Thank you very much.

Senator **Wallop**. Thank you very much, Mr. Lichtblau.

Mr. Morgan.

[Mr. Lichtblau's written testimony follows:]

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EXISTING TAX LAWS, ENERGY POLICY AND THE NATIONAL SECURITY

Statement before the

Subcommitee on Energy and Agricultural Taxation

of the

Senate Finance Committee

U.S. Senate

by

John H. Lichtblau
President

June 21, 1985

Thank you for inviting me to testify before your Subcommittee on Energy and Agricultural Taxation. As per your letter request, I will address my comments primarily to existing tax legislation affecting the energy industry rather than to the recent proposals to reform this legislation. I will limit my comments to the petroleum sector of the energy industry.

The U.S. oil industry is granted special tax deductions not available to other industries and is burdened with special tax obligations not imposed on other industries. The expensing of intangible drilling costs (IDCs) and percentage depletion form the first category*; The Windfall Profit Tax (WPT) is the second. Both types of tax provisions reflect unique aspects of the U.S. oil industry. A rough calculation suggests that the expensing of IDCs, which is by far the larger of the two special tax deductions, has saved the industry some $4-5 billion annually in recent years. On the other side, the WPT increased the industry's net tax liability by about $5 billion last year and by $6.6 billion the year before.

In assessing the validity of these various tax provisions several questions must be asked: (1) What is the rationale for both the positive and the negative special tax provisions applicable to the oil industry? (2) How do these tax provisions affect the oil industry's tax burden vis-a-vis other U.S. industries? and (3) Do any, or all, of the oil industry's special tax provisions serve the national interest?

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* It should be noted that integrated oil companies are allowed to expense only 80% of their IDCs and are not entitled to percentage depletion.

Regarding the first question, the expensing provision for IDCs and the percentage depletion provison represent a recognition of the high capital intensity and the high risk nature of the oil industry. The high capital requirement is illustrated by the $84 billion average annual expenditure on exploration, development and production during the 3-year period 1980-82. About 40% of these expenditures represent operating costs associated with producing wells, including production and severance taxes. The remaining $50 billion go largely into the expenditures required to find reserves and develop production. Expenditures have increased sharply since the early 1970's. Since production has remained relatively unchanged, the industry's capital intensity has risen further. The cost of drilling and equipping a well rose from an average of about $120,000 in the 1971-74 period to a peak of $514,000 in 1982. It declined to $372,000 in 1983, as lower drilling activity and market adjustments in the oil service sector led to lower costs.

The expensing of the intangible parts of the required ~~capital~~ expenditures in the exploration and producing sector, which have no salvage value, puts this highly capital intensive industry on a more equal tax footing with industries which have relatively low capital expenditures and relatively high fully deductible current expenditures, such as labor costs, rentals, etc.

The oil and gas producing industry's high-risk character also justifies special tax treatment. All business operating in a market economy contains of course a risk element. But few other businesses face the total risk of an individual oil producer drilling a wildcat well in the U.S. The chance of a dry hole is almost 85%. If one takes all types of exploratory wells the odds are still almost 4 to 1 against finding a commercial producer. With a cost of $700,000 per exploratory well (1981-83 average), the financial stakes in this business are extremely high. Obviously, so are the rewards for those who drill the successful wells. But unless a large part of the risk money for exploration can be generated from the cash flow of previous successes, substantially less risk money would be available. The expensing of IDCs and the depletion allowance help to provide this risk money.

It has been argued that the price mechanism could provide the same incentive to search for oil as the two tax provisions. However, under present and foreseeable conditions, U.S. oil prices are not determined by domestic supply and demand but by the cost of imported oil, since the U.S. will remain a substantial net importer of crude oil for the foreseeable future. Thus, a decline in U.S. oil production due to the abolition of the two tax provisions would not be followed by a compensatory increase in the domestic price of oil.

Next, let us look at the oil industry's special negative tax provision, the WPT. The initial reason for its imposition was the perception that the very substantial increase in world oil prices imposed by the OPEC cartel in 1973/74 and again in 1979/80 would give the domestic oil industry a "windfall" profit, since under free market conditions prices would have risen much less during that period. Thus, the lifting of domestic crude oil price controls in 1981 was legislatively tied to the imposition of the WPT. The principle of the WPT may have been justifiable for oil which had been discovered prior to the price increases but not for new oil, whose cost had not yet been established.

The combination of inflation adjustments of the government's base price and reduction in the market price of oil has almost wiped outthe WPT on new oil (Tier 3) by now. However on most lower-48 old oil it still amounts to $5.50-6.00 per barrel which equals 20-25% of current wellhead prices.

The concept of the WPT was born at a time when crude oil prices were expected to go on rising. It stands to lose its validity in a period of declining prices, such as the past 4 years, and with the prospects of further declines. The tax is scheduled to end in 1990. The Treasury has estimated that from 1985 to then it will collect an annual average of $2.4 billion from the oil industry. Undoubtedly the government needs this revenue to reduce its deficit. That would be the only justification for maintaining it, for there is no more "windfall profit" on domestic oil production, old or new.

Our next question is what is the oil industry's effective federal tax rate relative to that of other U.S. industries? The answer is clear. The U.S. oil industry's tax burden has consistently been higher than that of U.S. industry in general for at least the last 5 years. This was determined in a study by our organization, entitled "The Tax Burden of Large Domestic Petroleum Companies 1974-82" which found that "large petroleum companies pay higher U.S. federal income taxes per dollar of net income than the average of large U.S. corporations." The Joint

Committee on Taxation's conclusions, which are similar, extend to 1983 when the average federal tax on U.S. corporate income was found to be 16.7% compared to 21.3% for petroleum companies. More recently the American Petroleum Institute has shown a similar result for 1984 as well. All of these tax calculations exclude the WPT which is additive to the industry's reported federal income tax payments.

It is important to establish the record of the oil industry's current tax rate relative to that of other industries because prior to the mid-1970's the relationship was generally reversed and it is frequently but erroneously assumed that this is still the case.

Finally, where does the national interest lie in maintaining the special oil tax provisions? The two tax deductions reduce federal revenue but provide incentives to oil and gas exploration and production. The WPT increases federal revenue, decreases oil industry earnings and thus the funds available for exploration but, as pointed out, has now only a marginally negative effect on oil exploration. The key national issue is that some tax revenue is foregone to encourage a higher level of domestic oil production than would otherwise be the case. The issue ties in directly with national security. As we have learned, a high dependency on foreign oil supplies brings political and economic risks. The extent and nature of this risk is well known and is beyond the scope of my statement. We have greatly lowered the risk by reducing our net oil import dependency from a peak of 44% in the 1977-79 period to 29% in the 1982-84 period. This year's share will be about the same. Part of the reduction has resulted from lower consumption and part from higher domestic production. This year our crude output will be nearly 800,000 B/D above the record low level of 1976. Alaska is of course the major reason for the increase in production. But the sharp increase in drilling in the lower-48 region since 1979 has reversed the decline that had taken place in that region during the 1970's. Alaskan producution is now levelling off and will likely start declining from about 1990 on. The extent to which we can maintain lower-48 production, or at least slow down its decline, depends almost entirely on the future drilling rate. The expensing of IDCs and the percentage depletion, if fully maintained, will be a major factor in attaining the required drilling rate.

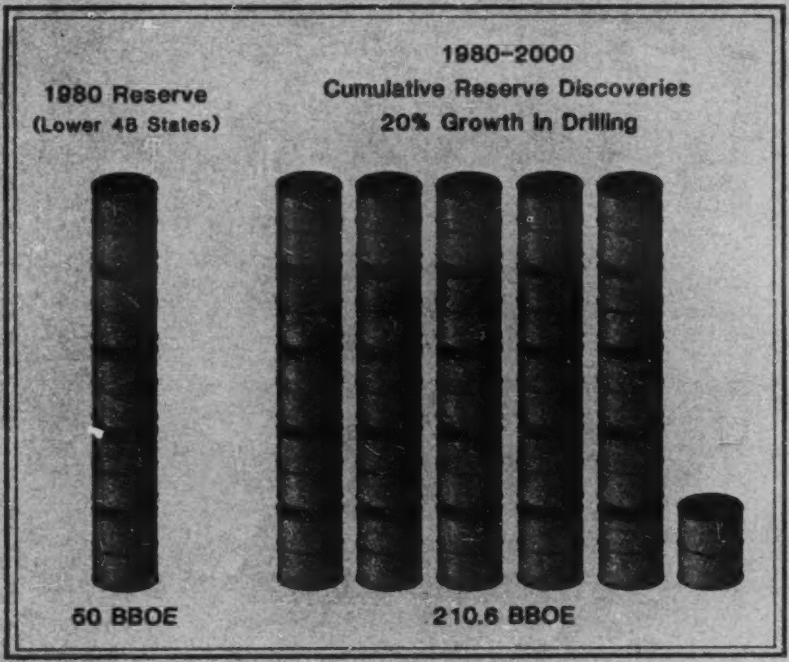
The importance of indigenous oil and gas availability to the U.S. economy has been demonstrated vividly over the past twelve years. These supplies carry an intrinsic social benefit, and using tax measures to encourage investment in oil and gas exploration and production is a legitimate function of national policy.

210 Billion Barrels Of Oil* Can Be Discovered By The Year 2000!

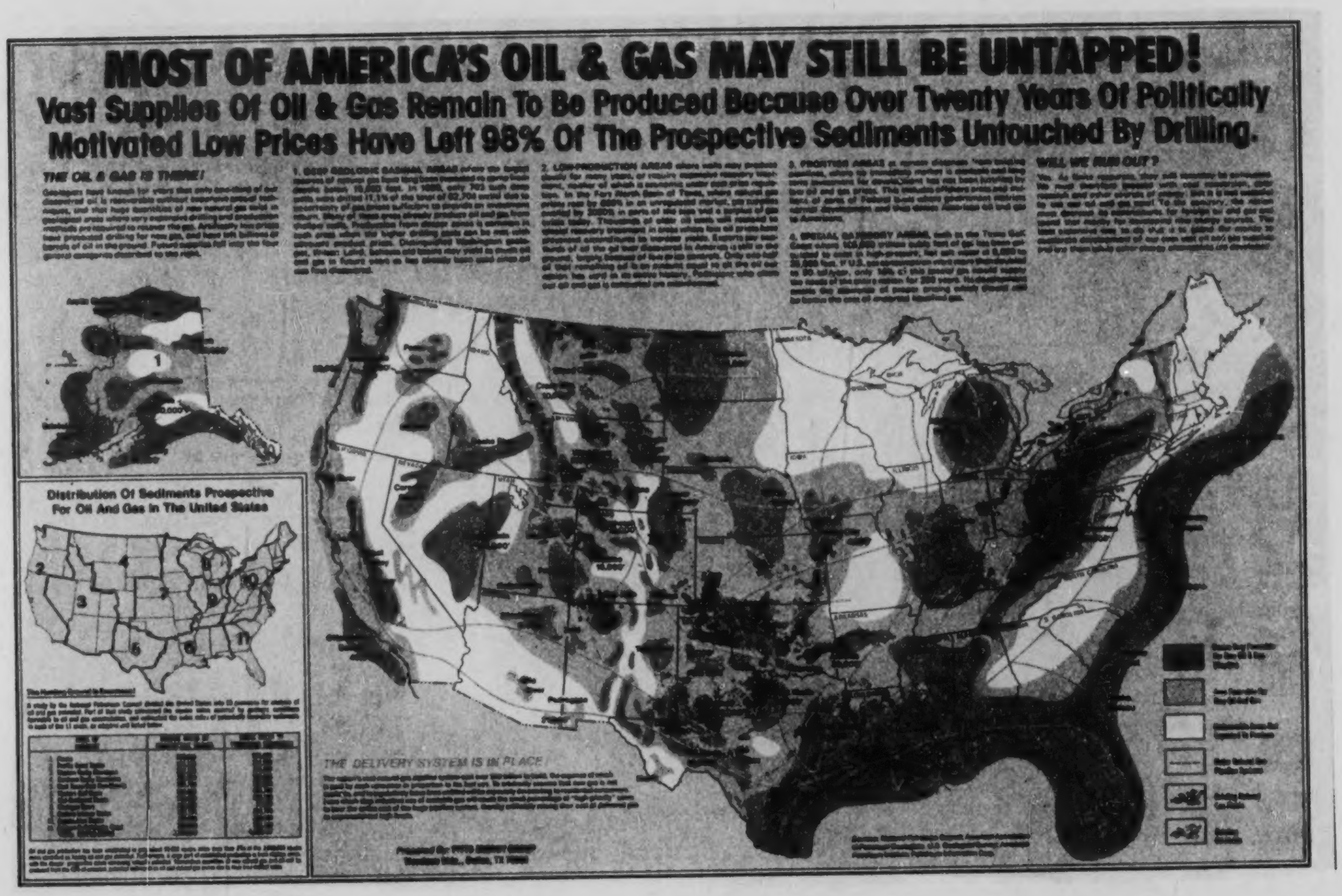
THE OIL & GAS CAN BE DEVELOPED

The geological evidence concerning vast remaining supplies of oil and gas in untapped sedimentary areas is supported by an engineering analysis of past drilling, reserve development, and production data. Taking into consideration oil, gas, and natural gas liquids, some 18.4 barrels of oil-equivalent will be found for every foot of well drilled in 1981. This finding rate is subject to a gradual decline over the years (at a 3.4% annual rate).

OIL AND GAS RESERVES will be developed only through drilling. The more we drill, the more reserves we will develop. If U. S. drilling is increased at 20% per year, a growth rate that can be realistically maintained, until it is approximately 2½ times today's drilling, a total of 210 billion barrels of oil-equivalent can be discovered by the year 2000. This would include oil, gas, and natural gas liquids. By comparison, today's reserves in the lower 48 states, are approximately 50 billion barrels of oil-equivalent.



*Oil & natural gas converted to billions of barrels of oil-equivalent (BBOE)



MOST OF AMERICA'S OIL & GAS MAY STILL BE UNTAPPED!

Vast Supplies Of Oil & Gas Remain To Be Produced Because Over Twenty Years Of Politically Motivated Low Prices Have Left 98% Of The Prospective Sediments Untouched By Drilling.

THE OIL & GAS IS THERE!

[illegible]

1. DEEP GEOLOGIC BASINAL AREAS [illegible]

2. [illegible]

3. [illegible]

4. [illegible]

WILL WE RUN OUT?

[illegible]

THE DELIVERY SYSTEM IS IN PLACE!

[illegible]

Distribution Of Sediments Prospective For Oil And Gas In The United States

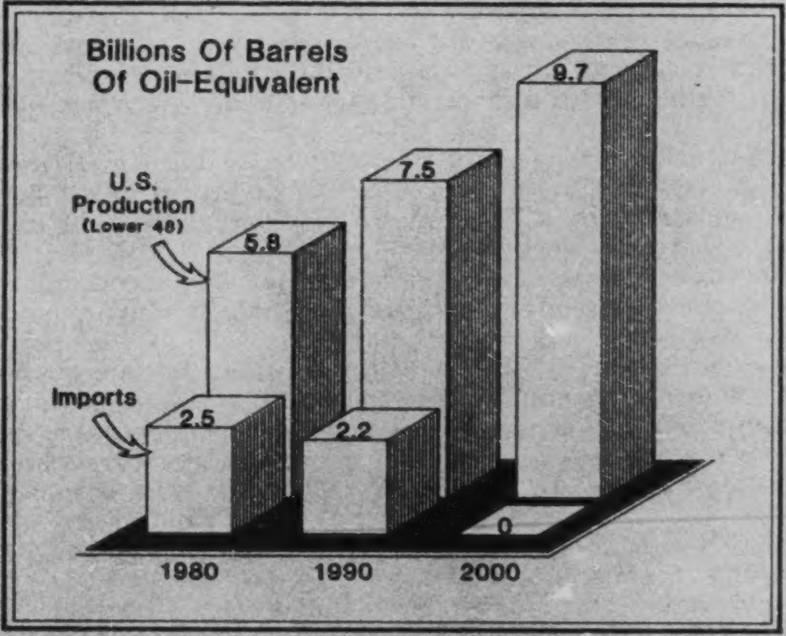
U.S. Production Can Be Doubled & Imports Slashed To Zero!

DOMESTIC OIL & GAS PRODUCTION

can be increased from today's insufficient levels only by building up the U. S. oil and gas reserve base, i.e., by accelerated drilling. Given a 20% growth scenario in drilling, U. S. production, now at 6.6 billion barrels of oil-equivalent (BBOE) can be increased to 7.5 BBOE in 1990, and to current consumption levels of 9.7 BBOE by the year 2000. If, on the other hand, drilling were to stagnate, U. S. production would decline and our import dependence would increase.

U. S. IMPORTS CAN BE ELIMINATED

with an accelerated drilling program. U. S. imports, now at 2.5 BBOE can be eliminated by the year 2000. If drilling were to stagnate, U. S. imports by the year 2000 would be 6.4 BBOE. Given the current price of $35 per barrel of imported oil, this corresponds to $224 billion per year. At the projected price of $100 per barrel by the year 2000, the annual crude oil import bill will soar to $640 billion, or roughly 4½ times the 1979 after tax profits of all U. S. corporations. Price aside, the U. S. cannot afford to be – and need not be – dependent on foreign energy sources.



WILL WE RUN OUT?

Drilling is no panacea. U.S. oil and gas reserves will ultimately be depleted. However, we can regain self-sufficiency in the intermediate run, and we can use the time so gained to develop alternative domestic supplies of energy.

Prepared by: [illegible] Energy Group, 160 Meadows Building, Dallas, Texas 75206 (214) 363-8996

Source: Dr. H. A. Merklein, Graduate School of Management, University of Dallas, Irving, Texas

STATEMENT OF RICHARD E. MORGAN, RESEARCH COORDINATOR, ENERGY PROJECT, ENVIRONMENTAL ACTION FOUNDATION, WASHINGTON, DC

Mr. MORGAN. Thank you, Mr. Chairman, and Senators Long and Matsunaga. I am Richard Morgan from Environmental Action Foundation. I am testifying today on behalf of EAF and several other national environmental and energy organizations. These organizations have a combined membership of nearly 1 million. We appreciate the opportunity to express our views on Federal tax policy as it relates to energy.

The organizations I represent today believe that tax policy should be neutral with respect to energy investments. We believe that all energy investments should be made according to their true economic merits rather than to tax benefits available from the Federal Government. We support this so-called level playing field for energy investments for several reasons:

First, present tax benefits encourage energy investments which are uneconomical and thus wasteful of financial resources.

Second, tax benefits can favor one type of energy technology over another.

Third, tax benefits for energy development are quite costly to our Nation's taxpayers. Existing tax benefits for energy development cost the equivalent of $372 annually for every household in the Nation.

Finally, tax subsidies are an inefficient means of encouraging investments, since they often subsidize investments which would be made anyway.

The complicated array of Federal tax subsidies for energy development has evolved gradually over the past 50 years or so. By and large, individual tax benefits for energy development have been added in a piecemeal fashion without regard to the overall impact on our energy system. In fact, some tax benefits were designed to counteract others. The result is a complex and unfocused Federal tax policy toward energy development and an enormous loss of Treasury tax revenue.

Tax expenditures for energy development contained in the current income tax system total at least $27 billion annually according to estimates by Environmental Action Foundation. At least $26 billion of the current annual tax expenditures are for the development of nonrenewable energy sources such as oil, gas, coal, and electric power. Only about $1 billion annually is spent by the Treasury to promote the development of renewable energy sources and conservation.

By comparison, the electric utility industry and the oil and gas industry each benefit from at least $12 billion annually in Federal tax expenditures.

The largest single expenditure for energy development is the accelerated cost recovery system, which is available for most energy investments. ACRS is the source of about half of all the tax expenditures for energy development.

Other large tax expenditures for energy include the investment tax credit, expensing of construction period interest, expensing of intangible drilling and mining exploration costs, and percentage depletion.

The Federal tax expenditures subsidize energy development in several different ways—capital investment subsidies such as ACRS and the investment tax credit help to find the upfront costs of many types of energy investments. The Edison Electric Institute has calculated, for instance, that Federal tax expenditures pay for 24 percent of the cost of building a powerplant. A capital subsidy of this magnitude can clearly make a poor investment look like a good one. As Prof. Don Fullerton of the University of Virginia has pointed out, "Special investment tax credits and accelerated depreciation allowances serve to push economically inferior investment projects ahead of more productive investment projects." Even the Federal Treasury Department has criticized both the ITC and ACRS for favoring certain investments over others and for inducing "tax-motivated behavior" by businesses.

The generous ITC and ACRS benefits available to utilities promote powerplant construction at the expense of other cost-effective alternatives such as load management and end-use efficiency. Numerous studies have demonstrated that it is usually cheaper to save a kilowatt than to generate one, yet tax subsidies encourage utilities to build new generating plants anyway. Why would the Government continue to subsidize powerplant construction when the utility industry's excess generating capacity is at an all-time high?

I should point out that the depreciation provisions of the administration's new tax reform plan are even more generous to utilities than the current law. They would put all powerplants in the 10-year depreciation class, even though these plants are expected to last 30 years. That will cost the Federal Treasury approximately $4 to $5 billion a year relative to what was proposed in Treasury 1.

Other tax subsidies like percentage depletion and the intangible drilling costs underwrite the exploration and production of energy resources. Industry officials say percentage depletion is necessary to keep marginal stripper wells operating. Why should the Government pay oil and gas producers to extract our national resources when they are not yet economic? Why not bank these uneconomic wells until our Nation really needs these resources and is willing to pay their true cost? As a subsidy for uneconomic oil and gas wells, percentage depletion is in reality a "Drain America First" policy which promises to make future generations even more dependent upon foreign oil.

Similarly, oil and gas officials argue that tax breaks are needed for drilling in order to cover the cost of their many dry holes. If so, that means that drillers' high-risk exploration is made possible only at the expense of our Nation's taxpayers. Tax expenditures which subsidize these marginal investments in energy development are wasteful of our Nation's economic resources. It would be far more effective to pursue conservation of our Nation's oil and gas resources through nontax measures such as automobile efficiency standards or home weatherization programs.

Renewables and conservation also offer us a solution that can reduce oil imports not only for the present but for the future as well, and we won't have to worry about dry holes because the Sun and the wind will always be there.

Certain investments in renewable energy sources and energy efficiency are currently eligible for special investment tax credits. These credits were enacted in part in order to provide some minimal balance to the overwhelming tax subsidies already available to nonrenewable energy sources such as oil and gas. But most of these credits are now scheduled to expire at the end of 1985. Federal tax benefits for energy will thus become even more unbalanced unless Congress takes action to extend these energy credits, as Senator Hatfield has proposed in S. 1220.

While we would prefer a Tax Code with no subsidies for energy development, we feel that the Government must continue to offer tax credits for renewables and conservation as long as it maintains tax subsidies for nonrenewable energy investments.

A little-known provision in the Federal Tax Code allows utilities to collect tax revenues from their customers which they are not required to pay the Government, often called phantom taxes. The law requires utilities to charge ratepayers as if they did not receive certain major tax benefits currently. The Department of Energy records indicate that electric utilities collect about $7 billion annually in Federal income taxes that they are not required to pay the Government. In fact, utilities typically collect about $3 from customers for every dollar they pay to the IRS. Already, the Nation's electric utilities are holding over $40 billion in unpaid income taxes they have collected from customers over the past 30 years because of this Federal law. The ability to collect phantom taxes encourages utilities to invest in new powerplants, even if they are not needed. State utility regulators who would like to discourage unwise utility investments are frustrated by the Federal law which requires utilities to overcharge their customers for Federal income taxes and then use these funds for powerplant construction.

We believe Congress should remove the clauses which preempt State regulation of utilities' Federal income tax expenses. Congress should also consider whether there is any need to offer investment incentives to utilities, given the utilities' status as guaranteed monopolies. The utilities are required by law to make the investments in order to provide adequate service to their customers. If tax incentives have any effect at all on utility investments, then they are encouraging overbuilding. If they do not have any impact on utility investments, then they are a waste of taxpayers' money.

While Federal tax expenditures cost our Nation's taxpayers at least $27 billion annually, the real cost is much greater. Countless billions of dollars are wasted each year on energy investments which would never have been made but for the generous Federal tax subsidies. Existing tax benefits create a strong bias toward investments in nonrenewable energy sources, causing us to accelerate the depletion of our scarce natural resources. By heavily subsidizing the development of nonrenewable resources, these tax expenditures provide a disincentive for the development of cost-effective renewable energy and energy efficiency measures, measures which could permanently reduce our Nation's dependency on foreign oil.

Compared to the Treasury Department's original tax simplification proposal, most of the tax expenditures for oil and gas and utilities would be restored under Treasury 2. Yet, renewables and conservation would still lose virtually all of their tax benefits. We think such a policy would be both unfair and unwise.

We would prefer to see Congress eliminate all tax subsidies for energy development as the Treasury proposed last November. Such a policy would require energy investments to be made according to their true economic merits rather than according to available tax subsidies.

Elimination of these tax expenditures would also provide the Treasury with billions of dollars which would be available to meet other needs.

Thank you very much.

[Mr. Morgan's written testimony follows:]

Testimony of

Richard E. Morgan

before the

Subcommittee on Energy and Agricultural Taxation

Senate Finance Committee

on behalf of

Environmental Action Foundation
Environmental Action
Environmental Defense Fund
Environmental Policy Institute
Friends of the Earth
National Audubon Society
Sierra Club
Solar Lobby

June 21, 1985

Mr. Chairman and members of the Subcommittee:

My name is Richard E. Morgan. I am employed as research coordinator of the Energy Project of the the Environmental Action Foundation. I am testifying today on behalf of EAF and seven other national environmental and energy organizations. These organizations have a combined membership of nearly one million. We appreciate the opportunity to express our views on federal tax policy as it relates to energy.

The organizations I represent today believe that tax policy should be neutral with respect to energy investments. We believe that all energy investments should be made according to their true economic merits, rather than according to tax benefits available from the federal government.

We support this so-called "level playing field" for energy investments for several reasons. First, present tax benefits encourage energy investments which are uneconomical and thus wasteful of financial resources. Second, tax benefits can favor one type of energy technology over another; thus, certain cost-effective energy investments might not be made because other types of energy development are subsidized through the tax code.

Third, tax benefits for energy development are quite costly to our nation's taxpayers. Existing tax benefits for energy development cost the equivalent of $372 annually for every household in the nation.

Finally, tax subsidies are an inefficient means of encouraging investment since they often subsidize investments which would be made anyway. If Congress wishes to encourage or discourage certain types of energy investments, other measures are available which can be far more effective in achieving this goal.

The complicated array of federal tax subsidies for energy development has evolved gradually over the past 50 years or so. By and large, individual tax benefits for energy development have been added in a piecemeal fashion without regard to the overall impact on energy investments. In fact, some tax benefits were designed to counteract others. The result is a complex and unfocused federal tax policy toward energy development and an enormous loss of Treasury tax revenue.

Existing Federal Energy Tax Expenditures

Tax expenditures for energy development contained in the current income tax system total at least $27 billion annually, according to estimates by the Environmental Action Foundation (EAF). That is the equivalent of $372 for every household in the nation.

At least $26 billion of the current annual tax expenditures are for the development of non-renewable energy sources such as oil, gas, coal and electric power plants. Only about $1 billion annually is spent by the Treasury to promote the development of renewable energy sources and conservation.

The largest single tax expenditure for energy development is the accelerated cost recovery system (ACRS), which is available for most energy investments. ACRS benefits for energy development cost the Treasury an estimated $12 billion to $16 billion annually.

Other large tax expenditures for energy development include the investment tax credit (over $5 billion annually), expensing of construction-period interest (over $4 billion), expensing of intangible drilling and mining exploration costs (over $2 billion) and percentage depletion (about $1.7 billion). A more detailed list of existing federal tax expenditures for energy development appears in the accompanying table.

The largest portion of these tax expenditures, $12 billion to $16 billion annually, goes to the oil and gas industry, according to EAF estimates. The Treasury spends another $12.4 billion annually on benefits to electric utilities. Tax expenditures for the coal industry total about $1.75 billion annually.

The combined cost of benefits for renewable energy sources, energy efficiency measures, and synthetic fuels total about $1.3 billion to $1.5 billion annually. (The Treasury Department does not compute tax expenditures for renewables and conservation alone, but this is estimated by EAF at about $1 billion annually.) Altogether, these subsidies through the federal income tax system cost the federal Treasury $27 billion to $32 billion annually, according to EAF estimates.

Impacts of Energy Tax Expenditures

Federal tax expenditures subsidize energy development in several different ways. Some benefits support exploration or production of energy resources, while others subsidize investments in energy facilities such as refineries, power plants, or wind generators.

Capital investment subsidies, such as ACRS and the investment tax credit (ITC), help to finance the cost of many types of energy investments. The Edison Electric Institute has calculated, for instance, that federal tax expenditures pay for 24 percent of the cost of building a power plant.

A capital subsidy of this magnitude can clearly make a poor investment look like a good one. As Professor Don Fullerton of the University of Virginia has pointed out,

> "Special investment tax credits and accelerated depreciation allowances serve to push economically inferior investment projects ahead of more productive investment projects."

Similarly, a 1980 study of energy tax policy by the National Research Council found:

> "(T)he investment tax credit makes the high capital cost option cheaper to investors than is justified by the resources actually expended. It thus tends to induce choices that absorb more capital in generating the same amount of electricity than would be the case without the tax credit."

Even the federal Treasury Department has criticized both the ITC and ACRS for favoring certain investments over others and for inducing "tax-motivated" behavior by businesses.

The generous ITC and ACRS benefits available to utilities promote power plant construction at the expense of other cost-effective alternatives such as load management and end-use efficiency. Numerous studies have demonstrated that it is usually cheaper to save a kilowatt than to generate one, yet tax subsidies encourage utilities to build new generating plants anyway. Why should the government continue to subsidize power plant construction when the utility industry's excess generating capacity is at an all-time high? Generating reserve margins are currently 36 percent, or about twice what utility regulators recommend to meet customers' needs.

Other tax subsidies underwrite the exploration and production of energy resources. Percentage depletion, for instance, stimulates oil production by allowing producers to write off more than their original investment for tax purposes. Expensing of intangible drilling costs, meanwhile, allows generous write-offs for oil and gas exploration.

Industry officials say percentage depletion is necessary to keep marginal "stripper" wells operating. Why should the government pay oil and gas producers to extract our natural resources when they are not yet economic? Why not bank these uneconomic wells until our nation really needs these resources and is willing to pay their true cost? As a subsidy for uneconomic oil and gas wells, percentage depletion is in reality a "Drain America First" policy which promises to make future generations more dependent upon foreign oil.

Similarly, oil and gas officials argue that tax breaks are needed for drilling in order to cover the cost of their many "dry holes." If so, that means that drillers' high-risk exploration is made possible only at the expense of our nation's taxpayers. Tax expenditures which subsidize these marginal investments in energy development are wasteful of our nation's economic resources. It would be far more effective to pursue conservation of our nation's oil and gas resources through non-tax measures such as automobile efficiency standards or home weatherization programs.

Some major tax subsidies for energy development are not obvious from looking at the tax code. For example, a seemingly innocuous tax benefit for installation of pollution control equipment has turned into a multi-billion-dollar subsidy for energy facilities. A provision in the tax code allows businesses to use tax-exempt bonds to finance pollution control investments.

A liberal interpretation of the federal law by the Internal Revenue Service (IRS) has allowed companies to finance large portions of power plants and other energy facilities with subsidized tax-exempt bonds. In 1984 alone, utilities raised nearly $8.8 billion in capital through pollution control bonds, which will ultimately cost the Treasury nearly $10 billion in lost tax revenues, according to estimates by E&F.

Last year, in fact, more than half of all the bonds issued by investor-owned utilities were tax-exempt pollution control bonds. We do not believe Congress intended this tax incentive for pollution control to become a major subsidy for construction of energy facilities.

Certain investments in renewable energy sources and energy efficiency are eligible for special investment tax credits. Residential investments can receive tax credits of 15 to 40 percent, while businesses can receive credits of 10 to 15 percent.

The renewable and conservation tax credits were enacted, in part, in order to provide some minimal balance to the overwhemling tax subsidies already available to non-renewable energy sources such as oil and gas. All of the residential credits and most of the business credits are now scheduled to expire at the end of 1985. Federal tax benefits for energy will thus become even more unbalanced unless Congress takes action to extend the energy credits. While we would prefer a tax code with no subsidies for energy development, we feel that the government must continue to offer tax credits for renewables and conservation as long as it maintains tax subsidies for non-renewable energy investments.

Other tax subsidies designed specifically for energy companies include favorable treatment of coal royalties and mining reclamation costs, as well as special tax exemptions for dividends paid on certain utility common and preferred stock.

Federal Tax Policy and Utilities

A little-known provision in the federal tax code allows utilities to collect tax revenues from their customers which they are not required to pay to the government, often called "phantom taxes." The law requires utilities to charge ratepayers as if they did not receive certain major tax benefits currently. The unpaid taxes are then available to help finance construction of new power plants.

Department of Energy records indicate that electric utilities collect about $7 billion annually in federal income taxes which they are not required to pay the government. In fact, utilities typically collect about $3 from customers for every dollar they actually pay to the IRS. Already, the nation's electric utilities are holding over $40 billion in unpaid income taxes they have collected from customers over the past 30 years, according to EAF estimates.

The ability to collect phantom taxes encourages utilities to invest in new power plants, even if they are not needed. State utility regulators who would like to to discourage unwise utility investments are frustrated by the federal law which requires utilities to overcharge their customers for federal income taxes and then allows them to use these funds for power plant construction.

We believe Congress should remove the clauses which preempt state regulation of utilities' federal income tax expenses [I.R.C. sections 46(f) and 167(l)]. The state utility commissions are better equipped than the federal government to determine what costs should be included in utility bills.

Congress should also consider whether there is any need to offer investment incentives to utilities through the tax code. As guaranteed monopolies, utilities are required by law to make the investments necessary to provide adequate service to their customers. If tax incentives have any effect at all on utility investments, then they encourage overbuilding. If they do not have any impact on utility investments, then they are a waste of taxpayers' money.

Because utilities have no need for investment incentives, we urge the Congress to eliminate all tax expenditures for utilities, including the excessively generous 10- and 15-year depreciation periods for generating plants and the unique tax exemption for utility stock dividends.

Conclusion

Federal tax expenditures for energy development are very costly to our nation. At the very least, they cost taxpayers over $27 billion annually in lost tax revenues for the Treasury.

The full cost, however, is much greater. These tax subsidies underwrite costly high-risk drilling, wasteful production at uneconomic wells, and construction of expensive and redundant electric generating capacity. Countless billions of dollars are wasted each year on energy investments which would never have been made but for generous federal tax subsidies.

Existing tax benefits create a strong bias toward investments in non-renewable energy sources, causing us to accelerate the depletion of our scarce natural resources. By heavily subsidizing the development of non-renewable resources, these tax expenditures provide a disincentive for development of cost-effective renewable energy and energy efficiency measures.

We therefore urge Congress to eliminate all tax subsidies for energy development. Such a policy would require energy investments to be made according to their true economic merits rather than according to available tax subsidies. Elimination of these tax expenditures would also provide the Treasury with at least $27 billion annually which would be available to meet other needs.

Thank you for considering our views on this matter.

ANNUAL FEDERAL TAX EXPENDITURES FOR ENERGY DEVELOPMENT[a]
(billions of dollars)

	Expenditure	Year of Estimate	Source
Electric Utilities			
Accelerated Cost Recovery System	4.73	1983	DOE
Investment tax credit	1.96	1983	DOE
Expensing of construction-period interest	4.10	1983	DOE
Pollution control bonds	1.00[b]	1984	EAF
Other industrial development bonds	0.18	FY1985	Treas.
Dividend reinvestment programs	0.45	FY1985	Treas.
Total	12.42[b]		
Oil and Gas			
Accelerated Cost Recovery System	6.0-10.0[b]	FY1985	EAF
Investment tax credit	3.00	FY1985	EAF
Percentage depletion	1.12	FY1985	Treas.
Expensing of intangible drilling	2.03	FY1985	Treas.
Expensing of construction-period Interest	?		
Expensing of tertiary injectants	?		
Tax benefits for foreign operations	?		
Total	12.15-16.15[b]		
Coal			
Accelerated Cost Recovery System	0.35	1983	NCA
Investment tax credit	0.18	1983	NCA
Percentage depletion	0.60	1983	NCA
Expensing of exploration costs	0.11	1983	NCA
Deduction for future reclamation costs	0.40	FY1985	Treas.
Capital gains treatment of royalties	0.11	FY1985	Treas.
Total	1.75		
Renewables, Energy Efficiency and Synthetic Fuels			
Residential conservation	0.33	FY1985	Treas.
Residential renewables	0.24	FY1985	Treas.
Alcohol & synfuel production credit	0.02	FY1985	Treas.
Business energy tax credits (incl. wind, solar, hydro, geothermal, biomass, synfuels, and coal conversion)	0.21	FY1985	Treas.
Investment tax credit	0.17[b]	FY1985	EAF
Accelerated Cost Recovery System	0.75-0.90[b]	FY1985	EAF
Total	1.31-1.46[b]		
TOTAL TAX EXPENDITURES FOR ENERGY	27.63-31.78[b]		

Notes for Table:

[a] Estimates of tax expenditures for a single year are not available. Table includes estimate for most recent year available. Totals represent an approximation of annual tax expenditures for 1983-1985.

[b] approximate.

Sources for Table:

U.S. Dept. of Energy, Energy Information Admin., Financial Statistics of Electric Utilities, 1983, February 1985

The Bond Buyer, December 4, 1984

Ebasco Business Consulting Co., Analysis of Public Utility Financing, Year 1984, January 1985.

U.S. Office of Management and Budget, Special Analysis G of the Budget, Fiscal Year 1986, February 1985.

Internal Revenue Service, Statistics of Income: Corporation Income Tax Returns, 1981, 1984.

Carl E. Bagge, National Coal Association, letter to Secretary Donald P. Hodel, U.S. Dept. of Energy, December 14, 1984.

Senator WALLOP. Thank you, Mr. Morgan.

Senator Long, questions of the panel?

Senator LONG. Let me ask a question of Mr. Lichtblau.

On page 4 at the bottom of your statement you say, "The Joint Committee on Taxation conclusions extend to 1983 when the average Federal tax on U.S. corporate income was 16.7 percent, compared to 21.3 percent for petroleum companies." You mention a summary study by the API that showed a summary result for 1984, and you said that does not include the windfall profits tax. Of course, if you just assume that there is no windfall profits tax and add up what that tax would be if the windfall profits tax did not exist, they would be paying a lot more taxes than that.

I just wondered, have you been able to get Treasury to agree with you that this is the case?

Mr. LICHTBLAU. Yes; I think so. Of course, we are talking about large companies, primarily.

Senator LONG. I know.

Mr. LICHTBLAU. Corporations. I think there is general agreement. Certainly, as I say, the Bureau of the Budget has come up with— no, the Joint Committee on Taxation has come up with the same kind of numbers. I don't think there is any controversy on that. It is clearly a higher tax burden. And if you add the various tax burdens such as the severance taxes and so on, even per dollar of sales the tax burden on oil is higher than it is for American industry in general. I said this wasn't always the case, but it has been the case largely because the depletion allowance has been lost for all companies other than the independents for the first 1,000-barrels-a-day production.

Senator LONG. In view of that fact, if you wanted to talk about simplification, wouldn't that dictate that we dispense with the windfall profit tax at this point? I don't know of any tax that requires more bookkeeping and is more difficult to comply with than the windfall profit tax; I think it is the most mind-boggling tax in history. If one just looks at all of the bookwork that has to be done just to compute the windfall profits tax for a royalty owner and pay it on his behalf, it is utterly fantastic to see all the bookkeeping work. If you want to simplify that, just repeal the windfall profit tax.

It seems to me that if you are trying to simplify and be fair, I don't see how you can justify the windfall profit tax any longer.

Mr. LICHTBLAU. Not any longer, no. As I say, there was an argument back in the 1979, 1980, 1981 period. Of course, it is declining now, and it will disappear automatically by 1990—if taxes ever do disappear, but that is at least the intention of the administration and of Congress at the moment. And the burden of the windfall profit tax on exploration has substantially declined, because the prices have come down and the base price on which the windfall profit tax calculation is based has increased, so that it is no longer much of a burden on exploration, on new oil; but on old oil we are talking about $5.50 or $6 a barrel. That is very substantial for most of the lower 48 old oil. That is a very substantial burden. That money would be available for exploration, and drilling of course.

So I don't think it is a punitive tax, but it is a tax from a period that simply no longer exists. It reflects the past. We had a revolution in oil prices; but since 1981 oil prices have been declining very rapidly, and there is every indication that they will continue to decline. To have a windfall profit tax under those conditions is very questionable. I just think that the Treasury needs all the money it can get from any place, so they won't give up this one.

Senator LONG. Thank you very much.

Mr. MORGAN. Could I add one point to that?

Senator LONG. Yes.

Mr. MORGAN. There are quite a number of oil companies that have paid little or no tax in recent years. And although some companies like Exxon have paid a large share, that is balanced on the other side by companies like Texaco, Ashland Oil, Amerada Hess, and Mitchell Energy, which paid no Federal income tax at all from 1981 to 1983.

Also, I believe the figures you cited from the Joint Tax Committee were for the major oil companies; isn't that right?

Mr. LICHTBLAU. Yes; large companies.

Mr. MORGAN. So we really are only talking about the majors there. But the tax rate for the independents is very much lower, and in fact many, many of them are paying no Federal income tax at this point, and that is largely because they get the oil depletion benefits which the majors are no longer able to take.

Senator LONG. I know at least one fellow who went bankrupt a few years ago, bless his heart. He had to have a private bankruptcy and go out of business. I noticed they were charged with a big income tax the same year he went out of business. So I would assume that you think he is getting a big break, too, Mr. Morgan, based on the kind of statement you made here today.

Thank you.

Senator WALLOP. Senator Matsunaga.

Senator MATSUNAGA. Thank you, Mr. Chairman.

Mr. Schuler, I want to commend you on your scholarly presentation. I note by your table 1 that the projected import of oil—that is, both refined and nonrefined—is projected to be 9.44 million barrels a day, as compared to 5.38 in 1984.

Now, how do you propose to reduce this type of increased import?

Mr. SCHULER. Senator Matsunaga, as I suggested, I think we have to encourage the development of coal, of synthetic fuels, of renewables, of all the things that are going to help to chip away at that import. But in doing all of that, we cannot neglect the fact that we need to produce as much domestic oil and gas as we can at the same time, again, with the view to chipping away at those imports. That is the EIA's forecast of oil imports for 1995, I think, that you were referring to. And if oil prices fall to the level that many people think they are going to fall now, the EIA forecasts even greater imports of oil by 1995; to the level of 65 percent of our total oil demand will be imported, according to EIA's forecast at the lower oil price.

So, we need to chip away at that in every way that we can, and I think that the continued incentives for exploration and production of U.S. oil and gas is required, because gas can play a big role in cutting into that oil consumption.

Senator MATSUNAGA. Then are you suggesting that we continue the investment tax credit as well as the energy tax credit?

Mr. SCHULER. Certainly the elimination of the investment tax credit and the changed depreciation allowance are going to have an impact upon the petroleum industry as they are on any capital-intensive industry. There are estimates that it will have a disproportionate impact upon petroleum because it is so capital intensive, but I would suppose that it would be totally politically impossible to maintain it for some industries and not for all industries.

Senator MATSUNAGA. Mr. Morgan in your testimony you seemed to suggest that the tax incentives—tax subsidies, in effect—should be eliminated. You do point out, however, that in the case of nonrenewables we grant $26 billion in Federal subsidies as compared to only $1 billion for renewables and conservation.

Now, are you proposing that we eliminate all? Or do you, by implication, favor retention of the so-called "subsidies," I would call them "Federal incentives," for the development of renewable energy and conservation?

Mr. MORGAN. Environmental Action has always favored eliminating all tax subsidies for energy development—renewables and nonrenewables alike. That policy is echoed by other energy organizations such as the Solar Lobby, which is one of the strong advocates for retaining the energy tax credits. They would prefer to get rid of all subsidies as well. If that is not going to happen, then we feel strongly that it is essential to continue those tax credits for renewables and conservation at least on the same timetable that we are continuing the benefits for oil depletion, for example.

In fact, Senate bill 1220, I believe, would have a 5-year phaseout of the renewable tax credits—the same period of time that the administration has proposed for phasing out the depletion allowance that exists for the nonstripper wells. So we feel there ought to be come sort of equitable treatment; although, we would favor eliminating all of those tax benefits, as Treasury-1 proposed last November.

Senator MATSUNAGA. My time is up, Mr. Chairman, although I did have a question for Mr. Lichtblau.

Senator WALLOP. All right. Perhaps we will have time to revisit those.

Mr. Morgan, your statement that it is cheaper to save a kilowatt than to produce one was a statement that had a great deal more validity than it does today. Do you agree with that?

Mr. MORGAN. Not necessarily.

Senator WALLOP. Well, you can either agree with it or disagree with it; it is hard to qualify it. Basically, I think most people in the world would say that the easy conservation has been achieved and most conservation that remains to us is now very expensive indeed.

Mr. MORGAN. Certainly for some of these the conservation has been achieved. At the same time there are still many homes in this country that are not insulated at all or have very minimal insulation. The percentage of homes in this country that have been retrofitted and made efficient relative to what energy costs are today is still quite low, and we have a long way to go. The cost of retrofitting industry with more efficient motors, for example, you can save a kilowatt hour of electricity for less than a penny; whereas, it costs perhaps 10 or 15 cents to generate a kilowatt hour from a new powerplant. That is the kind of difference I am talking about.

Senator **Wallop**. I am surprised, then, that if you subscribe to that theory you would be for the wasting, which in essence is what you are calling for by the elimination of the tax credits for producing stripper wells. Your thesis that somehow or another we can go back when oil or gas prices rise again and resume production is geologically unsubstantiatable. They're gone, you stop producing those strippers, those low-volume gas things, and that's it—they're over. It goes out into the structures.

I see you shaking your head, but I doubt you will find anybody in the world of geology that would disagree with my statement.

Mr. **Morgan**. Well, any time you have a resource in the ground, if the price rises high enough there would be some incentive to take that resource out of the ground.

Senator **Wallop**. But you can't if it is unrecoverable, and it becomes unrecoverable by not being produced. It goes off into the structures and therefore no longer has any pressure in the case of gas or fungibility in the case of oil. And it just seems to me that that is a very peculiar position for an environmental organization to take. It really doesn't live with the less stressed of your concepts.

Mr. Schuler and Mr. Lichtblau, I have some questions for the pair of you and would have you both respond. First, give me a sense of the strategic importance of coal and other energy resources besides oil and gas, and should they be developed in a strategic concept? And what would be the likelihood that we could produce those, or do any of the options that you might recommend, if the price of oil drops to $20?

Mr. **Lichtblau**. Well, if the price of oil drops to $20, it might be very difficult for coal to compete; maybe at $20 it still could. But the real problem would be if you have a price break, a kind of price collapse; if you talk about residual fuel oil, prices could go to a level where coal could not compete, and that means you would then see a very substantial increase in oil demand in the electric utility sector and elsewhere. So you can't just assume a price break with the consumer benefiting from the low prices and nothing else happening. There would be a shift, also, from gas to oil.

We have seen the ease with which this can be done in the United Kingdom last year when there was a coal strike. Within a very short time 400,000 barrels a day of residual fuel oil went into this market, and the coal strike was largely ineffective. So if the price of oil really broke, you would have that.

So I think it is very important that you have a domestic coal base. And coal is the one fuel in this economy which is rising steadily—the demand for coal is rising. The share of coal in the electric power sector is increasing continuously and is projected to continue increasing, because we are not building many nuclear power stations; they are still increasing the pipeline of nuclear construction. But by the early 1990's it will go down; the very old ones will have to be shut down by then, and no new ones will be built. So the share of coal will increase.

But it depends in part on what you assume oil prices will be.

But of course there is this whole other area where coal and oil do not compete—the entire transportation sector. The growth in oil demand is in the transportation sector. The decline in oil is largely in the stationary sector. So eventually the interface of coal and oil will be much less; it already is much less than it was.

Senator **Wallop**. Mr. Schuler.

Mr. **Schuler**. Senator Wallop, we have talked largely in terms of the price consideration in these competing fuel developments, but we all know that there are structural barriers to development of some forms of energy that go beyond price, and at whatever price we wouldn't be installing new nuclear plants, I don't think, at this time.

Coal is another good example of that. The acid rain problem can be met through production of low-sulpher coal from Wyoming, for example. However, you run into the structural problems of the Eastern and Midwestern coal-producing States that are afraid of losing market share to the Western coal and therefore stand in the way of it.

Similarly, coal can be utilized in gasification. But we have a plant at Great Plains that is just about to go belly up because of revised prices and revised interest on the part of the Government in supporting that.

So there are these sorts of barriers to utilization of coal and nuclear and other alternatives, and that's why I urge that, while we proceed ahead at flank speed in developing those, we don't do anything to destroy that oil and gas base that is a bird in hand.

Senator **Wallop**. Senator Long, do you have questions?

Senator **Long**. No thank you, Mr. Chairman.

Senator **Wallop**. Senator Matsunaga, you said you had one more?

Senator **Matsunaga**. Yes, it was with reference to the acid rain that I had a question for Mr. Lichtblau. Of course, Dr. Schuler touched upon it.

As you know, our neighbor Canada is very much concerned about acid rain. Of course, your proposal for domestic oil as well as coal production I think is an understandable one. You pointed out we need to maintain this, if not for anything else for our own national security. But how do you propose to resolve this problem with our neighbor as to acid rain if we continue to produce that which causes acid rain?

Mr. **Lichtblau**. Well, our President has said we need much more research. That is one way of dealing with it. I am not an expert on acid rain, but I think technically it is possible, as Dr. Schuler says, to substantially reduce the amount of acid rain by using low-sulfur coal, by using a mix of gas and coal, by changing the fuel patterns depending on the weather—things like this. And of course desulfurization of coal is a practical factor that exists in many facilities. Clean air dispensing isn't free, but it can be done. Technologically we are there, and the price is not beyond our ability; but obviously it would cost more.

It would also mean that if the price of coal went up because they had to use low-sulfur coal, other fuels that compete directly with low-sulfur coal such as natural gas would be more used.

As you know, we have a very substantial natural gas surplus, the cleanest fuel that is in the ground, to the extent of maybe 2 to 2.5 trillion cubic feet, and yet they are using more and more coal. So there could be this shift or at least a mix of the two which would lower the air pollution problem. So it is a solvable problem. I think they are not doing enough, considering the fact that our coal demand in the United States rises very rapidly.

Senator MATSUNAGA. Would private industry go ahead and resolve the problem without any incentive?

Mr. LICHTBLAU. Probably not. Probably we will need either incentives or legislation that would prohibit it. On its own, for competitive reasons, they would probably go only up to a point.

Senator MATSUNAGA. Are you saying private industry lacks the public spirit for clean air?

Mr. LICHTBLAU. No, but private industry has to be competitive, above all. Unless private industry does this collectively, one company doing it may find the cost is too high and therefore cannot continue doing it. So if these things would have to be done, it is a public burden, and it is the Government's function to come in.

Senator WALLOP. I would urge my friend from Hawaii to go visit the cool water gasification plant in Dagett, where they produce gasified energy—coal—competitive with natural gas in a manner that is consistent with California's clean air laws, and which is competitively priced right now. It is a rather exciting means by which you might take note, in Daggett, CA. It is the only coal, as I understand, that is permitted to be burned in California, and burned side-by-side with natural gas plants. So the answer is that private industry can now do that once again, it is a question of what other requirements level the playing field.

Senator LONG. Mr. Chairman, I have one or two questions of Mr. Schuler here.

Senator WALLOP. Yes.

Senator LONG. Mr. Schuler, I believe you provided us with this document here?

Mr. SCHULER. Yes, sir, that is my written testimony.

Senator LONG. "The Treasury Department's View of Oil Imports." Would you mind explaining to me what is your view of this Treasury document? Do you agree? Disagree? Or would you explain what is the value of it to us?

Mr. SCHULER. Well, the reason for preparing that document was to compare the situation today, the energy, the oil import situation, the overall picture, to that which existed in 1974 and 1978. On both of those occasions, Secretary of the Treasury Simon in January 1975 and Secretary Blumenthal in January 1979 said oil imports represent a threat to national security. And when Treasury-1 came out in November of last year, the Treasury analysis said in effect "We recognize that eliminating some of these incentive is going to mean less production of oil and gas in the United States, and that will mean greater imports; but we don't think that is a bad thing." So my point was to investigate whether there was any justification for their saying the overall situation is so much better today that we can be complacent about energy when their predecessors just a few years before found a totally opposite view? And my conclusion was that, no, there was no such justification.

Senator LONG. As I recall, for 17 years before 1974, this Government, with its tax policies as well as other policies, sat there and accepted it as perhaps a good thing to do nothing to help the oil and gas industry, and it gradually dissipated its reserves. So when the crisis hit in 1973 with the Arab oil boycott, we were not in a position to say grace over our destiny as far as energy was concerned. You are familiar with that. At least by that time they should have learned the error of their ways in saying that the keeping that oil in the ground is the answer to the problem; because if you keep it in the ground until the emergency hits, at that point, if it is a major emergency, you are short on steel, and you don't have the energy to produce the steel, and you are short on manpower because you need your manpower for other pressing needs, and when the emergency comes you are short on something else that is even more critical at that moment—time. Because it takes time to go out here and drill those wells. It takes time to discover where the oil is. It takes time to build the refineries. It takes time to build the pipelines. And the time is going to run out quicker than anything else when the emergency hits. By the time you have drilled all the wells you need and you get the production online, the emergency is all over. If it is a war, you have lost the war because you didn't have the energy you needed.

I would hope that those who prior to 1974 were quite content to see us be energy dependent, and then came up later supporting recommendations that we have a crash program to try to overcome our dependence, by now have realized, especially after 1979, a repeat of the same type of thing, that this wasn't a good idea, and that you ought to have the energy available to you at the time that the crisis hits.

I take it that was your view after you went over there and did a study to try to help resolve a situation in Libya.

Mr. SCHULER. Certainly. That is my view exactly, Senator Long. Time is the factor. Whatever we do now or whatever we fail to do now is going to have an impact 10 years from now. And that is when we are already looking at imports that are likely to be 60 percent of our total demand.

Senator LONG. Thank you very much.

Senator WALLOP. Thank you, Mr. Chairman—or Senator Long. That's an old habit I once developed. [Laughter.]

Senator WALLOP. Let me just make an observation and give you a moment, Mr. Morgan, to respond. As I read your summary of testimony and going through your testimony, one of the things that distracts me about the direction it takes on behalf of you and the other environmental groups, is that you appear not to be concerned at all about either the strategic security or the economic security of the country regarding volumes of imports, dependency, or the ability to move in a crisis. Yours seems to be rather more an idyllic concept of what it would be like if we were all good children in a pen for the rest of our lives and that none of the real threats to the world existed, and that dollars could be exchanged internationally for whatever it might be. And, of course, that isn't the case.

So it strikes me that the one environment you are not looking at is the human environment in which the people of America have to conduct their lives, both economically and in a state of relative military security.

Mr. **Morgan**. Well, I would argue first of all that my concern is not just with any threats that we might be facing this year or next year or 5 years down the road, but the stress that my children and other people's children are going to be facing 25 or 50 years from now. If we are subsidizing the production of oil and gas right now in this country, where we are depleting the resources, and then 50 years from now there is very little left, we will be even more dependent on those foreign sources; because we have actually subsidized the production when it wasn't economical to produce those resources, and then those resources wouldn't be left down the road. I think that kind of policy is very shortsighted.

The fact is, there is only so much oil and gas in the ground in this country, and we have to live with that. We have to find the best ways of dealing with that, and I would argue that just encouraging more production right now is shortsighted, and that a much more appropriate way of dealing with that would be to find other ways of backing out oil and gas such as using what we have more efficiently, using what we import more efficiently, so that we can reduce the threat right now and in the future as well.

Senator **Wallop**. Well, I will suggest to you that in order to get to 50 years from now, if that is the time when we have used it up, we have to pass the next decade or two. And it seems that by ignoring that at this point in time, will almost assure us that our best chance of dealing with things is thereafter to democratize the misery—if we are permitted any democracy at all.

You know, there is the moment, and there is the future, and neither can be neglected. And it seems to me that to neglect the present solely on the altar of the future is not to put much faith and confidence in the ability of this country technically to get the other energy sources—which I think clearly we will—either as a matter of economics as the situation you describe begins to occur or as a matter of security in American policy. I would hope that somehow or another you would at least in presentations take a glance at today, because it really is important.

I thank you all for your presence here this morning. We still have a number of witnesses to go, and I have enough questions to take up the rest of the afternoon. But I have asked these other people to give us the benefit of their wisdom, too.

Thank you so much.

Mr. **Morgan**. Thank you.

Mr. **Schuler**. Thank you.

Mr. **Lichtblau**. Thank you.

Senator **Wallop**. Next is a panel consisting of Mr. Robert McCowan, vice chairman of the board of Ashland Oil; Mr. George Jandacek, vice chairman of Crown Central Petroleum; Mr. Tom Van Arsdall, vice president of Agricultural Inputs and Services of the National Council of Farmer Cooperatives; Mr. Nolan Hancock, director of the Citizenship-Legislative Department of Oil, Chemical and Atomic Workers Union in Washington; Mr. L. Frank Pitts, vice chairman, Council for a Secure America and President of the Pitts Energy Group; and Mr. Samuel L. Eisenstat, president of the Council for a Secure America, New York City.

Gentlemen, inasmuch as there are six of you and 5 minutes apiece that will take us a half an hour, I would urge you, to the best of your ability, to try to fit within the light structure of 5 minutes. And as is the case with the last group, everybody's testimony will be in the record in its entirety. I have gone over most of it, and its presence in the record will be most important to us.

So let us begin with Mr. McCowan.

Mr. McCowan. Mr. Chairman, I would like to ask Mr. Jandacek if he could speak first. We have tried to put our testimony together so we wouldn't repeat each other, so if he could begin first?

Senator Wallop. By all means.

STATEMENT BY GEORGE W. JANDACEK, VICE CHAIRMAN, CROWN CENTRAL PETROLEUM CORP., BALTIMORE, MD, ON BEHALF OF THE INDEPENDENT REFINERS COALITION

Mr. Jandacek. Thank you, Mr. Chairman.

I am George Jandacek, vice chairman of Crown Central Petroleum Corp. Crown Central owns and operates a 100,000 barrel a day refinery near Houston, TX. I am accompanied today by Robert McCowan of Ashland Oil. We represent the Independent Refinery Coalition, a group of 30 domestic refineries with approximately 2 million barrels a day capacity.

In 1980, U.S. operating refinery capacity stood at approximately 18 million barrels per day. Due to a drop in product demand, brought about principally by rising prices, the refining industry underwent a rationalization period that ended in 1982. Three million barrels of refining capacity were shutdown during this period. Meanwhile, U.S. refining companies invested heavily to modernize and improve the remaining plants. What emerged was a domestic refining industry acknowledged to be the world leader in refinery sophistication and technology.

In 1983, however, a second wave of U.S. refinery shut-downs began, and it's end is not yet in sight. Approximately 1 million barrels of capacity has been shutdown since mid-1983, while gasoline imports have risen dramatically. Today, the operating refining capacity in the United States is about 14 million barrels a day.

The basic U.S. energy policy is to rely on market forces to set prices and allocate the use of energy. IRC strongly supports these policy objectives, but we're here today to tell you that the market forces are not working with respect to crude oil and gasoline imports. In fact, rising subsidized imports of gasoline are destroying the refining industry, an industry that is vital to our national security. Therefore, we advocate the responsible use of tax authority to end these shutdowns.

Netback analysis makes it clear that most foreign refiners could not have exported gasoline to the U.S. market at a profit since mid-1983 if they had paid world prices for crude oil. Governments which own their own crude oil and also the refineries which use it can discount crude oil prices to their refineries. U.S. refiners, however, must pay the market price for their crude oil.

A Pace Co. study, commissioned by the IRC, predicts that new OPEC refineries will penetrate the U.S. market using such subsidizies and could result in the shutdown of an additional 800,000 barrels a day of capacity by the end of 1986.

The U.S. Government must take action to end disruptive foreign governments' refining and marketing practices that are shutting down U.S. refining capacities.

There is significant precedent for the use of the tax authority to influence energy policy. Such authority has been used to levy gasoline excise taxes, Superfund taxes, and windfall profit taxes, or to grant investment tax credits and accelerated depreciation of refinery equipment, to name a few.

In addition, since 1959, successive Presidents have taken national security action on petroleum and refined product imports by using quotas, license fees, and import fees, which are part of the general taxing and international trade regulation authority of the Congress.

In 1958 the U.S. lowered tariffs on imported gasoline to 1.25 cents per gallon when the wholesale price of domestic gasoline was 11.5 cents a gallon. These tariffs have not been converted to an ad valorem rate which would have reflected a sevenfold increase in the price of gasoline since 1958.

We support Senators Baucus and Long in their newly introduced legislation to impose a countervailing duty when natural resource input subsidies are used by foreign governments to unfairly penetrate the U.S. market. While this legislation is essential to final resolution of the unfair discounting practices, it does not address trade barriers which are diverting excess products to the U.S. market. These barriers will play an integral role in the ongoing reduction of U.S. capacity this year and in 1986. It is essential that prompt action be taken to stop this decline.

For that reason, we recommend Senate adoption of a companion bill to Representative Beryl Anthony's bill, H.R. 2354, which incorporates a recommendation of the recent ITC study and imposes an increased two-tier tariff on imported gasoline and blend stocks at the ad valorem rate. The bill would provide an interim remedy until appropriate longer-term measures are implemented. Mr. McCowan will comment briefly on some additional aspects of this problem.

Thank you.

[Mr. Jandacek's written testimony follows:]

STATEMENT OF GEORGE W. JANDACEK
ON BEHALF OF
THE INDEPENDENT REFINERS COALITION
BEFORE THE
SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION
SENATE FINANCE COMMITTEE

June 21, 1985

Mr. Chairman and Members of the Subcommittee:

I am George W. Jandacek, Vice-chairman and Chief Administrative Officer of Crown Central Petroleum Corporation. Crown Central is an independent refiner headquartered in Baltimore, Maryland, with a gasoline refinery near Houston, Texas. I am accompanied today by Robert T. McCowan, Vice-chairman of Ashland Oil, Inc. We are testifying today on behalf of the Independent Refiners Coalition (IRC). The IRC is composed of 18 companies and a trade association, the American Independent Refiners Association (AIRA). The IRC represents the interest of 30 independent refiners, which operate approximately one-half of the independent refining capacity of the United States. The independent refining sector represents 26 percent of U.S. operating refining capacity. The Coalition's members and production capacities are listed in Appendix A of this statement.

Mr. Chairman, we are here to discuss whether taxing authority should be used by the government to implement basic energy policy objectives. The Independent Refiners Coalition is convinced that selective use of the tax and trade laws within the jurisdiction of this Committee would provide the most effective means to implement key national security and energy policy objectives. Immediate action is required to deal with the effect of rapidly increasing gasoline and gasoline blendstocks on the U.S. refining industry, U.S. national security and U.S. energy policy. Our testimony discusses how taxing authority can be used to effect energy and national security policy, and makes the case for why that authority should be used at this time.

A CAPSULE HISTORY OF THE PROBLEM

In 1980, U.S. operating refinery capacity stood at approximately 18 million barrels per day (b/d). Due to crude oil decontrol, rising oil prices and a drop in refined product demand in the United States, the refining industry underwent a rationalization period that basically concluded in 1982. The three million b/d of refining capacity displaced during this rationalization mainly involved small refineries unable to cope with the changed economic environment. Also displaced were larger refineries with insufficient flexibility to refine heavier crude oils. While the rationalization was in progress, U.S. refining companies invested heavily to modernize and improve remaining plants. What emerged from the rationalization period was a domestic refining industry ackowledged today to be the world leader in refining sophistication and technology.

In 1983, however, a second wave of U.S. refinery shutdowns began and its end is not yet in sight. Approximately one million b/d of operating refining capacity has been shut down since mid-1983. Unlike the earlier rationalization, this shutdown wave has involved large, sophisticated U.S. refineries.

In seven of the last nine quarters, most major and independent refiners alike have posted significant losses on refining operations. Refiners are losing money because a barrel of refined products has been selling for less than its cost of production. The cause of this problem is the rapid increase in imports of light refined products, particularly gasoline and gasoline blendstocks. It must be realized that U.S. refinery economics are based on the profitable production of gasoline. The failure of the marketplace to set prices that recover the world market price of crude oil on gasoline sales is the major cause of injury to U.S. refiners. An important and related consideration here is the diversion of gasoline and other light products to the U.S. market due to tariff and non-tariff barriers in Japan and Western Europe.

Netback analysis makes it clear that most foreign refiners could not have exported gasoline to the U.S. at a profit since mid-1983 -- if these refiners were paying market prices for crude oil. Yet gasoline and blendstock imports have increased by some 167 percent from February 1983 through February 1985, and in May surged to record levels. What is happening is that, through various devices, government-owned or assisted refining operations are receiving discounted crude oil. In many cases the same governments are oil exporters, and charge U.S. refiners the world market price for crude oil. U.S. refiners cannot compete against this disruptive exercise of discriminatory government monopoly power.

In effect, we are replacing undue dependence on crude oil imports with undue dependence on the products refined from crude oil. However, unlike crude oil dependence, gasoline and other refined product dependence is weakening a strategically important industry vital to U.S. national security.

Current operating refinery capacity has fallen to only 14 million b/d. Increasing dependence on gasoline imports means continued negative refining margins and the loss of more refineries. Mr. Chairman, our analysis reveals that U.S. refining capacity is at or below the level required to meet national security requirements. We cannot afford to lose any more refineries. However, new export refineries coming on-stream in OPEC nations could shut down another 800,000 barrels per day of U.S. capacity in 1985 and 1986. It is crucial that taxing authority be used to maintain a refining sector adequate to U.S. national security and energy policy requirements.

This nation has two key policies with regard to petroleum and petroleum products which are inextricably linked. The basic U.S. energy policy is to allow market forces to set prices for both crude oil and refined products, and to allocate their use. U.S. national security policy entails the reduction of dependence on unsecure foreign imports of crude oil and petroleum products, and maintaining the capability to meet essential energy product needs in the event of a supply disruption or a military mobilization. The continued loss of domestic refining capacity caused by increasing gasoline imports is undermining both policies.

U.S. USE OF TAX AUTHORITY TO INFLUENCE ENERGY POLICY

The importance of petroleum and petroleum products to the U.S. economy, as well as undue reliance on imports of these products, have been ongoing concerns of public policy makers in Congress and in successive Administrations. Federal, state and local government involvement in the oil business has been extensive. Policy decisions in the past were primarily focused on macroeconomic issues, such as overall energy demand, crude petroleum and natural gas production, and crude oil imports.

Specific taxing authority has been used to raise gasoline excise taxes to improve highways. Exemptions from such taxes have been granted on fuel grade ethanol. There are Superfund taxes on feedstocks, investment tax credits and accelerated depreciation on crude conversion equipment to make unleaded gasoline out of heavier crude oils. There are also specific tax provisions relating to crude oil and natural gas exploration and production, such as the phased depletion allowance and intangible drilling costs. The Congress passed the Energy Tax Act of 1978, establishing the windfall profits tax, a gas guzzler tax and a myriad of tax incentives and credits to encourage conservation, home insulation and the development and use of alternative fuels.

The U.S. lowered tariffs on imported gasoline in 1958 to 1.25 cents per gallon when the wholesale price of gasoline was 11.5 cents per gallon, but has not adjusted those tariffs to an ad valorem rate to recognize the sevenfold increase in gasoline prices. This amounts to a de facto decrease in that tariff. In addition, since 1959, successive presidents have taken national security actions on petroleum and petroleum product imports through the use of quotas, license fees and import fees, which are part of the general taxing and international trade regulation authority of Congress.

Policy decisions distinct from taxing authority have lead to the establishment of Naval petroleum reserves, the Strategic Petroleum Reserve, international crude sharing arrangements, extensive regulation and controls affecting the price and production of crude oil and natural gas, oil price decontrol, and the phased deregulation of natural gas, to name but a few.

FOREIGN USE OF TAX OR OTHER GOVERNMENT AUTHORITY TO DIRECT ENERGY POLICY

The United States is not the only nation that uses government power to direct national energy policy. Both the energy-consuming nations and the energy-producing nations of the world have long engaged in active, interventionist policies in fostering domestic energy objectives.

First, an examination of large energy-consuming nations' tax policies reveals extreme attention to energy objectives. Europe has shown a heavy-handed approach to taxation of motor fuels as a revenue source and as a way to promote conservation. In most European countries, taxes on gasoline and diesel fuel have long exceeded the cost of the refined product. At the same time, through the Economic Community (EC), the European nations have worked together to develop an extensive system of discriminatory tariffs and quotas on petroleum, petroleum products, petrochemicals and other energy resources. Their system encourages certain imports and discourages others, and accomplishes political objectives regarding developing nations by allowing duty-free entry of all petroleum, petroleum products and petrochemicals. However, the EC is starting to implement limits on such duty-free entry. In Japan, a nation totally reliant upon imported energy, the government has used highly protectionist policy to protect its domestic refining industry, through limiting product imports to 10 or 11 percent of demand. No gasoline importer is permitted to bring supply into Japan. In short, energy-consuming nations have taxed consumption at high levels, and limited some refined product imports through the use of both tariff and non-tariff barriers, to achieve domestic energy policy goals. These actions tend to distort markets and unfairly divert refined products like gasoline to the largest market in the world -- the United States. Details on trade barriers in the major refined product markets are provided in Appendix B.

These actions of energy-consuming nations are in sharp contrast to the government policies implemented by many energy-producing nations such as Saudi Arabia, other Arab OPEC states, Mexico, Venezuela, China, Romania and the Soviet Union. These nations have long engaged in a program of subsidized energy for internal consumption. In fact, the current legislative concern over natural resource subsidies derives from foreign governments' provision of energy resources priced at well below "free market" levels to export industries, while exporting the same energy resources at higher market values.

In recent testimony before the Senate Energy Subcommittee on energy regulation and conservation, International Trade Commission Chairwoman Paula Stern indicated that feedstocks were being transferred by government agencies to state-owned refineries at prices substantially below world market prices. More details on these practices in energy producing nations can be found in the ITC Report 1696, issued in May 1985. These nations often engage in more extensive governmental intervention than subsidizing refinery inputs. Some governments sell crude to joint venture refinery partnerships, ostensibly at the official selling price (OSP). The partnership then sells the refined products to the individual partners at Platt's posted price. Those prices, in May 1984, produced a negative refinery margin of over $2 per barrel. It is clear that the joint-venture partnership is selling at a loss that does not even recover cash refining costs, much less any return on investment. Such losses must be absorbed in other ways. For example, in Saudi Arabia, a foreign firm engaged in a joint venture refining project benefits from low-priced refinery fuel, low-interest construction loans, tax holidays and other government-directed benefits. Such practices have allowed OPEC nations to adhere to crude production quotas and maintain OSPs for crude oil while discounting some crude production in the form of refined products. That crude would otherwise have to be sold at lower prices in the market. The economic practices of wholly-owned government refineries are even more intrusive examples of government energy ownership and production practices.

OPEC'S INFLUENCE ON S. ENERGY POLICY

The OPEC cartel's control of crude o l production and pricing has dominated U.S. energy and national secur ty policy for the last 12 years. During this period there has been a sign ficant but little-publicized shift to increased government ownership and contr l of downstream refining and marketing. This has altered the impact f OPEC's crude prodction and pricing policies on markets. As the U.S. govern ent has reduced its direct involvement in the oil and gas business n favor of market forces, the governments of other key nations have in reased their involvement. In the October 1984 issue of Chase Manhattan Ba 's energy economics review, The Petroleum Situation, this shift is descr bed. Only 15 percent of Free World refining capacity was government-owned i 1973. In 1980, about 29 percent was state-owned. Last year, some 42 percent as state-owned. As the new OPEC refineries come on-stream in 1985 and 19 , about half of the Free World's refining capacity will be state-owned. en Communist country refineries are included, government influence in the re ned products trade is overwhelming.

In a free market, the price of refin d products would set the price of crude oil. Crude oil, in its unrefined rm, is after all virtually useless. The value of crude oil is derived from t value of the refined products made from it. Due primarily to the OPEC cart , this relationship has been inverted.

During the 1970s, the rising price o crude oil was setting the price of refined products due to the leverage of e OPEC cartel. In the present period, the price of refined products ha on several occassions fallen below the cost of the crude oil input necessar to refine them. This is due to OPEC's attempt to slow the decline in cr de oil prices. Once again, OPEC has been instrumental in distorting the basi relationship between product prices and crude oil prices.

Currently, product prices are not se ing the price of crude oil with anywhere near the efficiency necessary i commodity markets. This has created negative refining margins -- not only for U.S. refiners but for virtually all Free World refiners paying market prices for crude oil. U.S. independent refiners are most immediately vulnerable to shutdowns from this disruptive practice, but major refiners are also vulnerable over the longer-term.

ENERGY POLICY AND U.S. REFINING CAPACITY

In brief, normal market forces are not working. We believe the causes of the distortion are clear, and the need for U.S. government action is immediate and compelling.

There are two main causes. First, there is the massive downstream shift to government-owned or controlled export-oriented refining by OPEC and other oil-producing nations. This downstream move carries the government monopoly power that supports OPEC crude oil prices into the refining sector. This is not simply vertical integration akin to private sector practice. Second, the use of tariff and non-tariff barriers by Japan and Europe to limit imports of refined products to maintain their refining capacity. This forces diversion of excess refined products, particularly gasoline, to the U.S. -- even though product transportation costs are higher and products sell at prices which produce negative refinery margins.

The formation of larger major integrated oil companies will not be adequate in and of itself to offset foreign government monopoly power and market distortion. This is evident from the fact that major oil companies have also experienced massive refining and marketing losses in the last two years. Independent refiners in the U.S. are less able to withstand the exercise of this foreign government power that affects independents and majors alike. There is a clear necessity for immediate and effective action by the U.S. government to offset the advent of this new form of foreign government distortion in the marketplace. The extension of government monopoly power into export refineries and diversion of product due to tariff and non-tariff barriers in Japan and Europe is thwarting U.S. energy policy.

Private U.S. refiners and marketers, whether independent or integrated -- and regardless of size -- cannot overcome this use of government power by themselves. Only the U.S. government can effectively deal with this distortive use of power by other governments. U.S. energy policy should not duplicate the direct intervention and discrimination used by foreign governments in petroleum and petroleum product markets. It should only negate or offset the unfair advantages these governments gain by their actions. The taxing authority of the U.S. government is sufficient to achieve this goal with the minimum amount of direct government intervention or regulation of the marketplace.

NATIONAL SECURITY AND U.S. REFINING CAPACITY

Energy policy and national security policy regarding petroleum and petroleum products are inextricably linked. The focus of this linkage in the past has been to prevent undue dependence on unsecure foreign sources of crude oil. Now that focus must shift to refining.

The overall decline in demand for refined products has produced excess refining capacity worldwide in the last five years. Moreover, almost two million b/d of new export refining capacity is now being added by OPEC countries. The market should decide which refineries shut down but the actions of foreign governments are moving the bulk of the excess production to the U.S. market.

Instead of markets allocating the shutdowns, foreign government policies are determining which refineries shut down. Unquestionably, these governments will continue to shift the shutdown burden to U.S. refineries unless the U.S. government calls a halt.

U.S. refining capacity is already below levels necessary to fully utilize the Strategic Petroleum Reserve. At current levels of operating capacity, and even adding the capacity of idled refineries actually capable of restarting, the IRC believes that the U.S. refining industry could not now meet essential military and civilian demand in the event of a mobilization. There would be serious disruptions and lags in any event, including import disruptions. We are already dependent on refined product imports, primarily transportation fuel products and blendstocks.

The only question today is how much worse it is likely to get. As demand increases worldwide, new supplies may be withdrawn from the U.S. market. The only choice we will have at that point is to drive prices up high enough to outbid other nations or to replace the refineries we are closing now, assuming credit and capital are available to do so. It will be very costly to undo the damage being done today in either case.

Section 232 of the Trade Expansion Act of 1962 clearly empowers the President to act in the interests of national security. Some questions need answers. How much refining capacity is needed? How much do we actually have available now? What specific actions should be taken to keep more refining capacity from shutting down? How will we urge foreign governments to take responsible actions to allow market forces to work? We have set out the case for action in our testimony. A summary of an extensive memorandum on the use of quotas and import fees on petroleum and refined products to protect national security under Section 232 is attached as Appendix C. Most recently, Section 232 authority was used by President Reagan to embargo crude oil imports from Libya.

The obvious policy conclusion is to limit gasoline imports to a level that will maintain existing capacity and bring essential idled capacity back on line. The taxing authority of the Congress is adequate to achieve this objective. Import fees, increased tariffs, quotas or some combination placed on gasoline imports alone would halt the erosion of U.S. refining capacity, at least until Europe and Japan adjust their trade barriers and worldwide excess refining capacity adjusts to current and projected demand levels. Changes in the unfair trade laws regarding subsidies and dumping would protect longer-term against unfair and uneconomic trade practices being used by many of these governments. Those laws are currently inadequate to deal with the practices being used. (Appendix D)

The IRC believes that the selective use of taxing authority and trade laws on gasoline imports can achieve our national security policy to maintain adequate refining capacity. The same actions will negate or offset the foreign government actions that are distorting the marketplace and thwarting U.S. energy policy.

The remainder of our testimony details and quantifies the impact of increasing gasoline imports on the U.S. refining industry and national security. In addition, current Congressional actions and proposals are discussed.

THE SHUTDOWN OF U.S. CAPACITY SINCE 1980: TWO WAVES

Independent and integrated domestic refining companies have been injured by the rapid increase in light refined product imports. Most significant for U.S. refiners has been the rapid escalation in subsidized, low-cost gasoline and gasoline blendstock imports. Gasoline imports pose a particularly severe problem because U.S. refinery economics are based on the production and profitable sale of gasoline. Almost half of every barrel of crude oil refined in the United States is converted into gasoline. The U.S. industry is geared to gasoline production for an obvious reason. Our market represents 52 percent of world gasoline demand, compared to only 16 percent in Western Europe and 10 percent in Far East, including Japan. If gasoline cannot be sold profitably in the U.S. market, the result is the shutdown of U.S. refining capacity.

The United States has reduced its operating refinery capacity by four million b/d, from 18 million b/d in 1981 to the current level of about 14 million b/d, a decline of 22 percent.(Chart 1) The total capacity reduction has occurred in two separate waves.

The first three million b/d of U.S. capacity to shut down included virtually all of the smaller, less-efficient units built during the mid-1970's, as well as more efficient refineries disadvantaged by location and the inability to use heavier crude oils. This first wave of plant closings, basically completed in 1982, rationalized the industry and left only the more efficient and sophisticated plants in operation.

The second wave of shutdowns began in mid-1983, after total refined product demand began to increase.(Chart 2) Beginning in that year, the plants which have shut down have been modern, efficient refineries capable of making high-quality light products. It has been alleged that recent closings have been merely a continuation of the rationalization process of old, inefficient plants. In fact, the wave of shutdowns which began in 1983 has not occurred because of inefficiency or because the U.S. industry has failed to keep pace with technology.(Chart 3)

While older U.S. refineries were shutting down between 1980 and 1982, the industry streamlined its remaining operations, investing $12 billion in new technology to use heavier crude oil, improve yields of gasoline and other light products, and to meet environmental standards. This upgrading has made the U.S. refining industry "the most flexible in the world and the world leader in refining technology." ("U.S. Refining Capacity Resumes Decline," Oil & Gas Journal, Annual Refining Issue, March 18, 1985). According to the Oil & Gas Journal, U.S. refineries operating today are twice as sophisticated as the world average. In addition, independent refiners today are as complex and efficient as the major oil company refineries.(Chart 4)

Critics have also attempted to assert that a continuous decline in gasoline demand is to be blamed for the second wave of shutdowns. This statement is simply incorrect. U.S. gasoline demand has increased steadily since 1982.(Chart 5)

The real cause of the second wave of shutdowns has been rising imports of cut-rate gasoline and blendstocks.(Chart 6) The dramatic increase in imports of gasoline and blendstocks began in the last half of 1983. These imports have driven U.S. refinery margins so low that U.S. refiners cannot continue to justify the operation of their facilities. In seven of the last nine quarters, most U.S. refineries have posted significant losses.(Chart 7) In short, a barrel of refined products has been selling for less than its cost of production.

To validate the correlation of gasoline imports and refinery margins, we plotted Chart 8, which shows the average annual Gulf Coast operating margins as well as the imports of gasoline and blendstocks since 1975. Chart 8 shows that when gasoline imports increased, margins decreased, and vice-versa. To further verify the cause-and-effect relationship, the margins were plotted directly against the imports in Chart 9. If there is a relationship, these points should fall roughly into a straight line. As you can see on Chart 9, imports of gasoline and blendstocks are indeed the cause of the recent negative U.S. refining margins.

Consumers and the economy have benefitted from the decline in energy costs and the decline in energy use. But we must point out that consumers cannot expect to continue paying prices for gasoline that are below refiners' production costs. Once subsidized gasoline imports force enough U.S. refineries to shut down to balance supply and demand, prices will rise dramatically.

IMPORTS

Netback analysis clearly demonstrates that most foreign refiners could not have sold gasoline at a profit in the U.S. market if they had paid market prices for their crude oil inputs. However, this apparent loss has not deterred imports. Imports of gasoline and blendstocks increased more than 300 percent from 1980 to 1984, from 128,000 b/d to 411,000 b/d.(Charts 10 and 11) Gasoline and blendstock imports equaled about six percent of total U.S. gasoline demand in 1984. It is important to observe that the increase in gasoline imports from 1982 thorugh 1984 exceeded the increase in gasoline demand.

In fact, it is generally conceded by industry observers and critics that actual imports of gasoline and blendstocks are higher than the level indicated by government statistics. Deputy Secretary of Energy Boggs told the Senate Energy Committee on June 4 that imports could be equivalent to as much as eight or nine percent of U.S. gasoline demand, if all refined products convertible to gasoline were accounted for by government reporting statistics. In May of last year, imports of finished gasoline and verified gasoline blendstocks averaged about 660,000 b/d or 10 percent of U.S. demand. You must keep in mind that in a commodity market, where the foreign barrel is the incremental supply, an eight or nine-percent market share is more than enough penetration to drive prices below breakeven for U.S. refiners.

We have witnessed an incredible surge in finished gasoline imports in May of 1985. According to weekly statistics published by the American Petroleum Institute (week ending June 7, 1985), finished gasoline imports alone averaged 736,000 b/d during the last week in May. While year-to-date U.S. gasoline demand has increased only 2.3 percent from last year, imports of finished gasoline have increased 27.7 percent. If gasoline blendstocks are included, the import increase is even larger.

If we examine the sources of these gasoline imports, we see the pattern changing between 1984 and 1985, with substantially increased volumes from Saudi Arabia.(Charts 12, 13 and 14)

Blanket statements to the effect that total product imports have decreased since the 1970s are misleading. Imports of residual fuel oil have dropped significantly, as has the demand for residual oil in the U.S. market. However, light refined products imports such as gasoline, naphtha, and diesel fuel, have increased.(Charts 15, 16 and 17)

DISCOUNTED CRUDE PRICES AND SUBSIDIZED GASOLINE IMPORTS

The problem of product imports would not be as serious as it is today if the products came from refineries that paid world market crude prices and had to operate at a profit. If they paid world market crude prices, recent netback analyses published in Platt's Oilgram Price Service (May 14, 1985) show that these refineries would be losing money on their refined product slate. About 60 percent of our imports in 1984 came from government-owned or controlled refineries. By various devices, governments discount the price of crude oils used in their state-owned refineries while charging U.S. refiners the higher world market prices. We believe that this discounting practice constitutes a discriminatory subsidy. U.S. refiners cannot compete against this unfair practice.

Many of the products coming from foreign privately-owned refineries, particularly in certain European countries, are produced under net processing deals with oil-producing countries, using discounted crude oil from the oil-producing countries. In these deals, the oil-producing country provides the crude oil at no charge. The refinery sells the refined products at depressed market prices, deducts a processing fee and transfers the net revenue to the oil-producing country. If these private refineries were paying market prices for crude, they would be operating at a loss.

The subsidies afforded by foreign governments do not stop at a subsidy for the crude oil from which the petroleum products are made. There are additional subsidies, such as discounted refinery fuel, tax holidays, low-cost or no-interest loans and the provision of other economic advantages.

Most of the projected additions to world capacity through 1988 will be government-owned or controlled, and will put even more pressure on refineries that operate for profit. In 1973, only 15 percent of Free World refining capacity was owned by governments. By the end of next year, about 50 percent of Free World refining operations will be government owned or controlled. If refineries in Communist countries are included, the government control of world refining overwhelms private sector refinery ownership.

NEW OPEC REFINERIES THREATEN U.S. REFINERIES

New OPEC refineries will soon export an additional one million b/d of refined product into a glutted world market.(Chart 18) There can be no question that this new supply will adversely impact U.S. refiners. New OPEC refineries pose a significant threat for two reasons: first, the use of crude oil price subsidies to penetrate export markets; second, the diversion of product to the U.S. market due to trade barriers in Western Europe and Japan.

According to a study commissioned by the Independent Refiners Coalition with the Pace Company, the new Middle East refineries cannot compete with domestic U.S. refineries in the U.S. market on a free trade basis -- that is, by paying world market prices for crude oil. The Pace study indicates that new OPEC refiners will penetrate the U.S. market by using price subsidies, discounting their crude oil inputs at prices unavailable to U.S. refiners buying the same crude oil. We ask that a copy of the PACE study be included for the record.

The enforcement of tariff and non-tariff barriers in Western Europe and Japan -- the logical markets for new OPEC production -- will divert a significant amount of the new OPEC gasoline and other refined product to the United States, where the gasoline tariff is the lowest of any major market's. The new product may come directly to the U.S. market, or may enter other markets and "back out" production from those markets into the U.S. market. Either way, this signals a new reliance on OPEC countries for both crude and refined products. This is contrary to market forces as well as common sense.

OPEC and other foreign producers are committed to building more refineries, at a time when U.S. refineries are closing down. Their reasons are obvious. Foreign producers need revenues. The world demand for oil has declined about 16 percent since 1979. OPEC once supplied about 31 million b/d of world oil demand, compared to only 16 million b/d this year and the official selling price (OSP) of oil has dropped from $35 to $28 per barrel.

OPEC revenues from petroleum exports have declined from a peak of $1.1 billion per day to about $450 million per day in 1985. To fund ongoing development programs, OPEC countries have been forced to draw down the huge cash surpluses they accumulated during the 1970s. For example, in 1981, Saudi Arabia, Kuwait, UAE and Qatar had a combined cash surplus of $64 billion. At the end of 1984, these countries were $6 billion in the red. The current account deficit for OPEC in total is estimated at $18 - $20 billion. Years of free spending have forced these countries to make across-the-board cuts in government outlays.

Faced with this dilemma, some OPEC nations have decided to export gasoline at subsidized prices as a means of propping up the crude oil OSP, and to replace revenues lost due to deteriorating crude oil markets. By selling refined products on the world market at prices which do not reflect the crude oil OSP, OPEC members with export refineries can move oil that could not otherwise be sold at the OSP. This allows OPEC nations to raise revenues and prop up the OSP of crude oil without overtly violating the Cartel's crude price rules. The Cartel has no agreements covering refined product prices. Without revenues generated by discounted refined product exports, OPEC's OSP for crude oil would be under even greater downward pressure.

In the May 15 hearing before the House Ways and Means International Trade Subcommittee, one witness erroneously stated that there had been a net decrease in refining capacity in the Gulf region because of the war between Iran and Iraq. Information compiled from the Oil & Gas Journal reveals that Middle East crude distillation refining capacity has increased from 2,920,502 b/d in January, 1982 to 3,596,360 b/d in January 1985. Capacity for other operations has also grown. (Chart 19).

NATIONAL SECURITY

Given the size of the U.S. gasoline market, the low tariffs on gasoline imports compared to other major markets and the desire of some foreign governments to enter our refined product market using whatever methods are necessary, there will be no end to the vicious cycle of subsidy, diversion and U.S. shutdowns -- unless a halt to the cycle is instituted by the U.S. government. Foreign refiners must be forced to share the shutdown burden required to balance supply and demand.

The U.S. Government must establish the minimum level of operating refining capacity which would be required to ensure that the U.S. national security is not at risk. Once that level has been determined -- and this determination should be made immediately -- action must be taken to maintain a certain level of domestic refining capacity in operating condition.

According to DOE's statistics, the United States had about 14.2 million b/d of operating refinery capacity in February of this year. The IRC estimates that, today, there is only 14 million b/d of capacity operating. The difference here is only due to incomplete reporting and time lags on the part of DOE. In addition, DOE reports an additional 1 - 1.5 million b/d of "idle" capacity listed as "operable".(Chart 1) The National Petroleum Council (NPC) is investigating the status of refining capacity. The NPC investigation may reveal that much of the so-called idle capacity is past the point of being returned to service. We believe that the "operable" capacity that could be restarted and running at a reasonable output within 30 to 90 days is far less than what DOE estimates.

When determining the capacity utilization of the U.S. refining industry, it is misleading to compare actual output against "operable" capacity. Doing so will distort the true operating rate and make it appear that the U.S. industry is running at only 75 percent of capacity. The myth that we have a large amount of capacity which is sitting idle but ready to be quickly returned to service if needed is false. For national security determinations and purposes, industry output must be judged in terms of plants actually operating. Today, the U.S. refining industry is running at approximately 85 percent of operating capacity. This rate approximates the average operating rate of the industry. Only twice in the last 35 years has the U.S. industry exceeded 90 percent utilization for a year's time.(Chart 20)

In the event of an emergency requiring increased output from the refining industry, plants listed as idle would not simply be "turned back on" to achieve increased production. Time and money are involved. We estimate the costs of restarting a 100,000 b/d refinery and training personnel to operate it safely to be as high as $250 million. Industry experience indicates that the government's use of 30 to 90 days as a startup time may be unrealistic.

Once a refinery is shut down, the workers disperse, vital operating equipment is shipped to other facilities, the hardware left behind corrodes, and inventories are liquidated. It can take as long as six months to restore the refinery to operating condition and train new personnel. Also, note that restarted plants cannot be expected to run at 85 to 90 percent rates for some time after restart. In addition, about two months' inventory of crude oil must be purchased and inventories rebuilt before operations can be sustained. Restarting idle refineries during emergencies means that crude oil supplies would already be tight, and the stockpiling of crude oil inventories would aggravate the shortfall.

Assuming that alternate markets will remain restricted and that new OPEC refineries will run at 85 - 90 percent rates regardless of demand, the Pace Company estimates that imports of finished gasoline and distillate will displace the need for over one million b/d of U.S. refining capacity by 1986 and 1.4 million b/d of capacity by 1990. This would put operating U.S. refinery capacity at just over 13 million b/d in 1986.(Chart 1) If this is allowed to occur, the risk to our economy and our national security will become unacceptable.

A recent Department of Energy study suggests that the U.S. should have 14.9 million b/d of operating capacity at an 85 percent utilization rate.(Chart 21) The current operating capacity of the U.S. refining industry is below this level and falling.(Chart 22) At the current level, the refining industry's ability to respond to a disruption of crude and refined products by drawing on the Strategic Petroleum Reserve is already compromised.(Charts 23 and 24) Also compromised is the industry's ability to respond to the rapid increase in demand that would result in the event of a military mobilization.(Charts 25 and 26) Without adequate refining capacity, the $15 billion investment in the Strategic Petroleum Reserve will fail to serve its purpose. The potential detriment to our economic and military security is directly proportional to the amount of refining capacity we can or cannot draw upon in an emergency.

It has been suggested that the United States could build a strategic reserve for gasoline. However, gasoline cannot be stored for long periods of time without significant deterioration due to gumming. Any "strategic reserve" of gasoline would have to be continuously cycled on a first in, first out basis. This cycling would be difficult because gasoline is blended to seasonal specifications.

The most efficient strategic reserve of gasoline is the refining industry itself. Any other method would prove inordinantly costly and ultimately unworkable.

RECOMMENDATIONS

We support Senators Baucus and Long in their newly-introduced legislation, S. 1292, to impose countervailing duties when natural resource input subsidies are used by foreign governments to unfairly penetrate the U.S. market. This legislation recognizes a serious inequity and would remove a current weakness in our trade laws.

The natural resource input subsidy legislation could resolve the unfair crude discounting practices in the long term, but will not require Europe and Japan to lower or eliminate their discriminatory trade barriers over the short term. These barriers will cause an additional unwarranted decline in U.S. refining capacity from OPEC refined product exports. For this reason, the bill does not fully address the dangers facing the domestic refining industry.

More importantly, there is not sufficient time to prevent irreparable injury to the domestic refining industry through traditional unfair trade remedies, even if the trade laws are reformed and strengthened this year. The cases are time-consuming. While this legislative and administrative process is taking place, we believe the Administration should take immediate steps to limit gasoline imports, or take other actions as appropriate, to maintain adequate refining capacity pursuant to the President's national security powers.

We further believe that the Congress should take prompt action specifically regarding gasoline imports. In this regard, we recommend Senate adoption of a companion bill to Rep. Beryl Anthony's bill, H.R. 2354, which incorporates the recommendations from the recent ITC study and imposes an increased two-tier tariff on imported gasoline and gasoline blendstocks at an ad valorem rate. This bill would provide an interim remedy to meet national security requirements and offset the diversion of gasoline from Japan and the EC by reason of their tariff and non-tariff barriers. The Congress should take also prompt action to close the loopholes on fuel grade ethanol and gasohol imports.

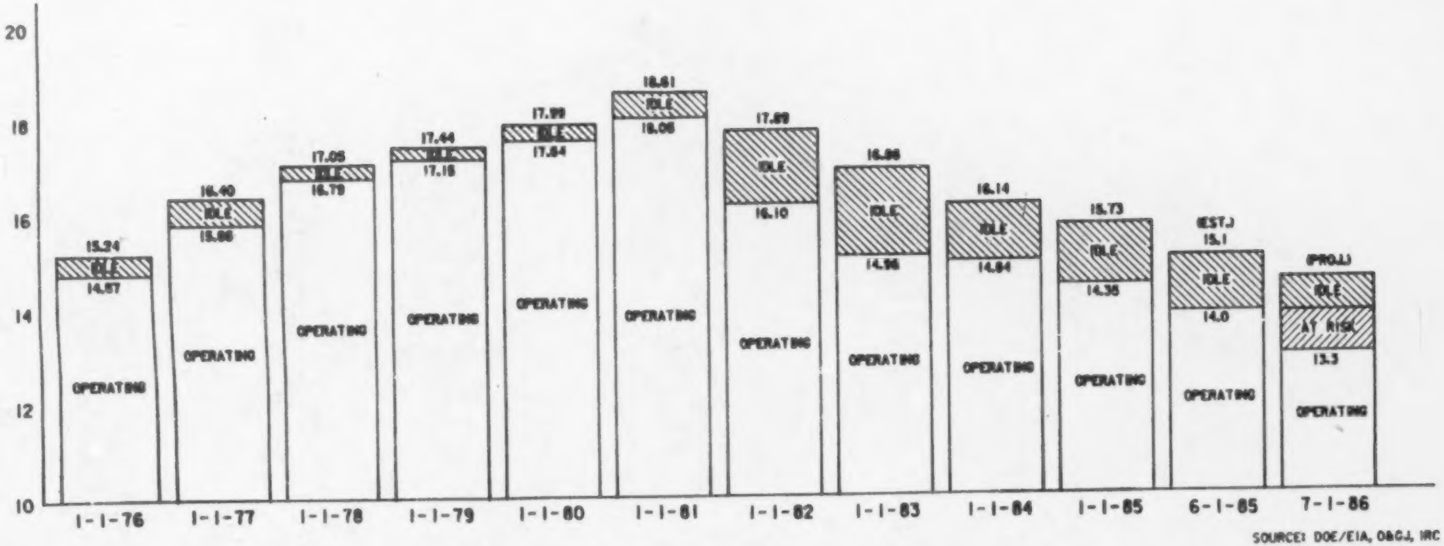
An alternative to this tariff approach is a quota system, or some combination of quotas and tariffs. The IRC would support such an alternative. In a landmark decision reached by the International Trade Commission last week, an open auction quota system was recommended as a solution to the problems of the domestic shoe industry. Unlike the auto quotas, which enriched the Japanese auto manufacturers at the expense of the American consumer, an auction of import quotas brings revenue to the U.S. Treasury. This amounts to an import license fee, the amount of which is determined periodically by market demand. It is even more flexible and market-oriented than an ad valorem tariff. We believe this approach has merit as a potential solution to the imports of subsidized gasoline.

Finally, a significant revision in the trade laws is necessary to deal with imports from nonmarket economies (NMEs). The current countervailing duty laws have been held to be inapplicable to subsidies by NMEs. The surrogate country approach in the antidumping laws has been unsatisfactory to domestic industries, NMEs and the Administration. Section 406 on market disruption has fallen into disuse because it has provided no relief and is inconsistent due to the politics of the moment. While trade law revision is required for NMEs in general, the tariff and taxing authority of the Congress would be more immediately effective to deal with the problems of gasoline imports from Communist countries, and their effect on energy and national security policy.

We believe these actions are the minimum required to eliminate distortion and diversion in world petroleum and refined petroleum product markets over the short term, and to increase the influence of market forces and protect U.S. national security into the 1990's.

CHART 1

U.S. REFINING CAPACITY
(MILLION BARRELS PER CALENDAR DAY)



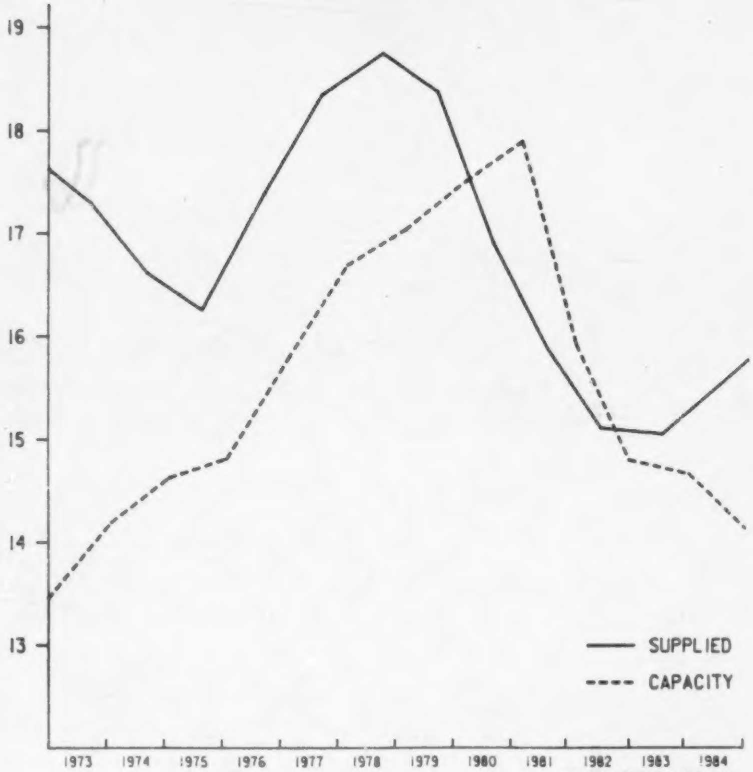
SOURCE: DOE/EIA, O&GJ, IRC
BY: COH 6/01/85

IMPORTS

CHART 2

PETROLEUM PRODUCTS SUPPLIED
VS
OPERATING REFINING CAPACITY

(MILLION BARRELS PER DAY)



SOURCE: DOE/EIA, MONTHLY ENERGY REVIEW

IMPORTS

CHART 3

United States
Refinery Shutdown Since 1/01/84

Source	Refiner Idled or Closed Since in 1/1/84	Location	Crude Capacity MBCD	DOWNSTREAM CAPACITY Gasoline Reformers MBSD	Cat Crackers MBSD	Hydro Crackers MBSD	Vis Breakers MBSD	Cokers MBSD	Hydro Treaters MBSD	Other MBSD
DOE	Warrior Asphalt Co.	Holt, AL.	4.0	-	-	-	-	-	-	5.9
OGJ	Pester	Eldorado, KS.	33.3	5.7	14.9	-	-	-	5.5	17.9
OGJ	Allied Materials	Stroud, OK.	7.6	-	-	-	-	-	-	6.6
OGJ	Oklahoma Ref.	Cyril, OK.	12.7	4.0	7.5	-	-	-	2.0	5.0
OGJ	Oklahoma Ref.	Thomas, OK.	8.8	-	-	-	-	-	-	-
DOE,OGJ	Tonkawa	Arnett, OK.	12.0	-	6.0	-	-	-	-	-
DOE,OGJ	Dorchester	Mt. Pleasant, TX.	26.5	3.5	9.6	-	-	-	9.5	25.2
DOE,OGJ	Quintana	Corpus Christi, TX.	30.3	18.0	-	10.0	-	-	18.0	13.5
OGJ	Eddy	Houston, TX.	3.3	-	-	-	-	-	-	-
DOE,OGJ	Flint Chemical Co.	San Antonio, TX.	1.5	-	-	-	-	-	-	-
DOE,OGJ	Tesoro	Carrizo Springs, TX.	26.1	3.5	-	-	-	-	-	-
Platts	Texaco*	Port Arthur, TX.	139.0	-	-	-	-	-	-	-
Platts	Texaco	Amarillo, TX.	20.0	5.0	8.0	-	-	4.0	5.0	1.5
Platts	Texaco	Lawrenceville, IL.	54.0	24.0	34.0	-	-	-	41.0	34.3
Platts	Southland*	Lake Charles, LA.	157.8	-	-	-	-	-	-	-
DOE,OGJ	Southern Union	Lovington, NM.	36.1	-	-	-	-	-	8.5	11.5
OGJ	Thriftway	Bloomfield, NM.	6.1	-	-	-	-	-	-	-
OGJ	IVEC	Bakersfield, CA.	27.0	-	-	-	-	12.0	-	23.5
DOE,OGJ	Marlex	Longbeach, CA.	21.1	-	-	-	-	-	-	-
OGJ	Pacific Oasis	Paramount, CA.	32.0	11.5	-	-	-	-	28.5	43.0
DOE,OGJ	Powerine	Sante Fe Springs, CA.	44.1	8.0	11.5	7.7	-	10.0	39.4	30.6
OGJ	USA	Ventura, CA.	24.0	7.0	-	-	-	-	-	-
Chap. 11	Fletcher	Carson, CA.	29.5	4.2	9.5	-	-	-	10.0	-
OGJ	Golden Eagle	Carson, CA.	16.2	-	-	-	-	-	-	-
OGJ	Sunland	Bakersfield, CA.	12.0	-	-	-	-	-	-	-
	Gary Western	Fruita, CO.	13.1	3.4	-	6.0	-	4.0	3.4	10.0
	Total Idled or Closed Since 1/1/84		791.1	97.8	101.0	23.7	-	30.0	170.8	227.6

Operating on 1/1/84**	14,837.6
Operating as of 05/01/85	14,046.5

*Partial shutdown, downstream capacity reduction unknown
**DOE/EIA U.S. Refining Capacity:1984

CHART 4

COMPARISON OF COMPLEXITY AND EFFICIENCY BETWEEN
INDEPENDENTS AND MAJOR OIL COMPANIES

	1982		Inds. Adv. Over Majs.	1983		Inds. Adv. Over Majs.
	Majors	Independs		Majors	Independs	
Complexity	9.11	9.08	(.03)	10.50	10.30	(.20)
Fuel Use (MBTU/Barrel)	536	496	40	663	525	138
Overall Wt. Loss (%)	0.87	0.68	.19	0.61	0.70	(.09)
Cash Operating Costs ($/Barrel)	3.97	3.72	.25	3.78	3.44	.34
Average Plant Age (years)				22	14	8
Number of Refineries in Survey	54	21		46	25	

Source: "Fuels Refining Performance Analysis," Lee H.Solomon

CHART 5

Petroleum

Finished Motor Gasoline Supply and Disposition

		Supply			Disposition				Ending Stocks[1]	
						Product Supplied				
		Total Production	Imports[2]	Stock Withdrawal[1] [3]	Exports	Total	Unleaded[4]	Unleaded Percent of Total	Total Motor Gasoline[5]	Finished Motor Gasoline
		Thousand barrels per day							Million barrels	
1973	Average	6,535	134	9	4	6,674			209	
1974	Average	6,360	204	-24	2	6,537			[6]218	
1975	Average	6,520	184	[6]-28	2	6,675			235	
1976	Average	6,841	131	10	3	6,978			231	
1977	Average	7,033	217	-72	2	7,177	1,978	27.5	258	
1978	Average	7,169	190	54	1	7,412	2,521	34.0	238	
1979	Average	6,852	181	2	(s)	7,034	2,798	39.8	237	
1980	Average	6,506	140	-66	1	6,579	3,067	46.6	[6]261	
1981	Average[7]	6,405 -24	157 +24	[6]28	2	6,588	3,264	49.5	253	
1982	Average	6,338 -42	197 +42	25	20	6,539	3,409	52.1	[6]235	
1983	January	6,065	153	[6]-167	(s)	6,051	3,364	55.6	250	207
	February	5,848	128	24	(s)	6,000	3,264	54.4	250	207
	March	5,906	186	768	23	6,836	3,622	53.0	223	183
	April	6,201	255	-3	1	6,452	3,492	54.1	221	183
	May	6,397	305	-83	1	6,617	3,558	53.8	223	185
	June	6,655	277	84	22	6,994	3,792	54.2	223	183
	July	6,707	302	-225	18	6,765	3,746	55.4	231	190
	August	6,537	250	161	13	6,936	3,836	55.3	226	185
	September	6,611	279	-149	14	6,727	3,691	54.9	229	189
	October	6,188	330	72	2	6,588	3,711	56.3	227	187
	November	6,634	269	-298	2	6,603	3,692	55.9	236	196
	December	6,308	224	339	25	6,846	3,966	57.9	222	186
	Average	6,340 -35	247 +35	45	10	6,622	3,647	55.1		
1984	January	6,037	233	-1	1	6,268	3,606	57.5	225	186
	February	6,320	303	-384	2	6,237	3,585	57.5	237	197
	March	6,375	343	-197	9	6,512	3,747	57.5	243	203
	April	6,528	308	-153	(s)	6,682	3,854	57.7	248	207
	May	6,650	329	-106	(s)	6,873	3,990	58.1	253	211
	June	6,620	272	217	17	7,092	4,210	59.4	245	204
	July	6,481	247	130	9	6,849	4,094	59.8	239	200
	August	6,436	243	437	1	7,114	4,263	59.9	225	187
	September	6,545	333	-263	2	6,614	3,982	60.2	235	194
	October	6,396	293	42	1	6,730	4,074	60.5	233	193
	November	6,705	286	-175	11	6,805	4,243	62.3	240	198
	December	6,513	308	-225	16	6,580	4,185	63.6	243	205
	Average	6,467 -79	292 +79	-55	6	6,696	3,987	60.0		
1985	January	5,889	204	245	2	6,336	4,026	63.5	234	158
	February	R5,900	R347	R277	2	R6,521	4,048	62.1	R227	R190
	March†	*5,972*	*381*	*188*	NA	*6,533*	NA	NA	*217*	*183*
	Average	5,921	309	235	NA	6,461	NA	NA		
		Less Blendstocks	Plus Blendstocks							

*To compare production and imports columns since 1981 with earlier data, blendstocks must be added to imports and subtracted from production.

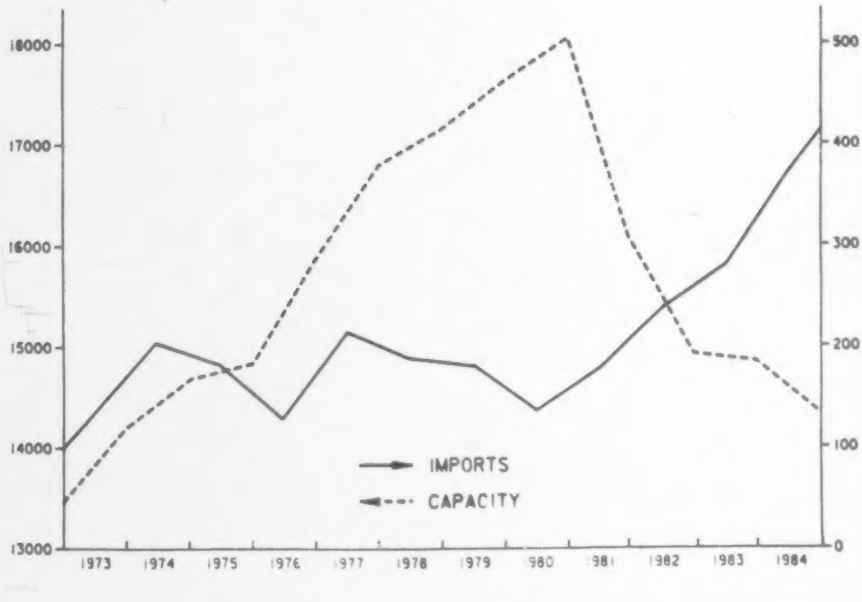
---

[1] Stocks are totals as of end of period.
[2] Beginning in 1981, excludes blending components.*
[3] A negative number indicates an increase in stocks and a positive number indicates a decrease.
[4] Includes gasohol.
[5] Includes motor gasoline blending components.
[6] In January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock withdrawal calculations. See Note 5 on the last page of this section.
[7] Beginning in January 1981, survey forms were modified. See Note 2 on the last page of this section.
† Italics denote estimates based upon preliminary data. R = Revised data. NA = Not available. (s) = Less than 500 barrels per day.
Notes: • Geographic coverage is the 50 States and the District of Columbia.
• Totals may not equal sum of components due to independent rounding.
Sources: • See the last page of this section.

CHART 6

OPERATING REFINING CAPACITY VS GASOLINE IMPORTS

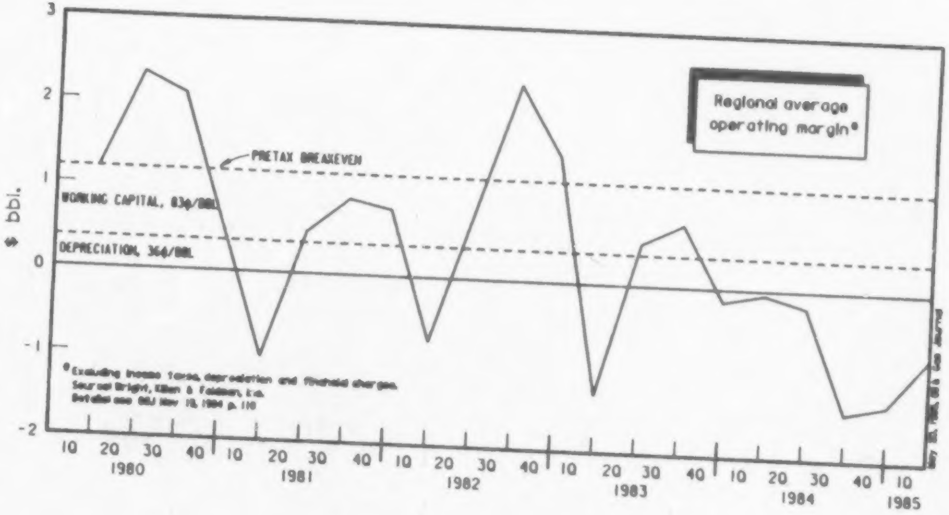
(THOUSAND BARRELS PER DAY)



SOURCE: DOE/EIA

CHART 7

GULF COAST REFINING MARGINS

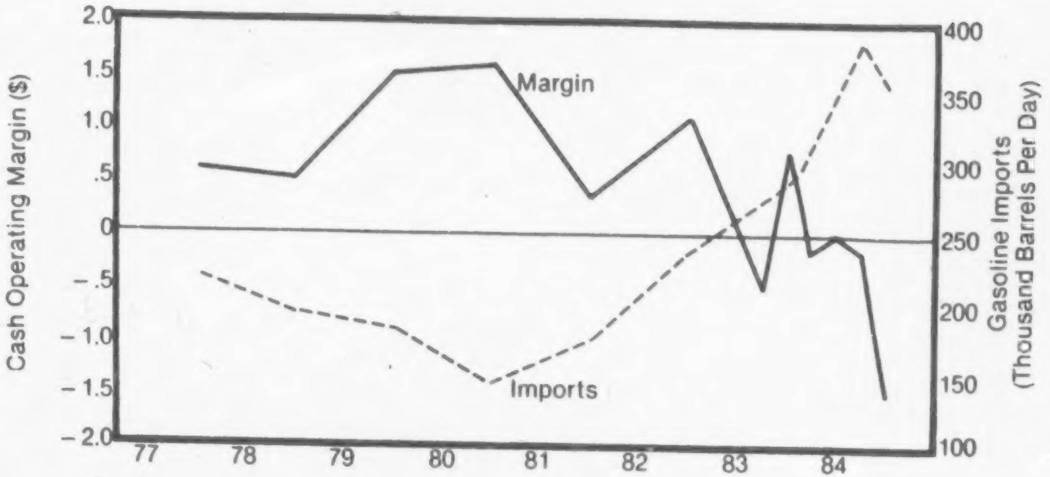


* Excluding income taxes, depreciation and financial charges.
Source: Bright, Kiben & Feldman, Inc.
Details see OGJ Nov 19, 1984 p. 110

MARGIN
CH/05/85

CHART 8.

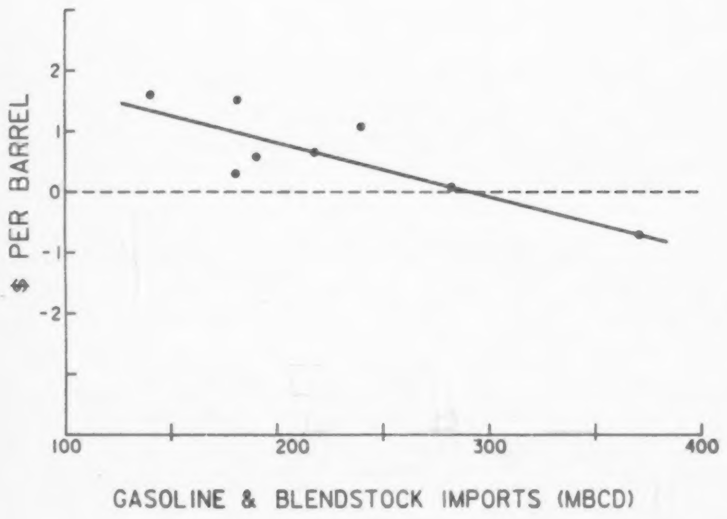
Refinery Cash Operating Margin
vs.
Gasoline & Gasoline Blendstock Imports



Source: Margin per Wright, Killen & Feldman, Inc. O&G Journal, 11/9/84 and 4/15/85, Imports per Petroleum Supply Monthly, DOE

CHART 9

IMPACT OF IMPORTS ON REFINING MARGINS



SOURCE: DOE/EIA, OR&J

CHART 10

DOE GASOLINE AND NAPHTHA NET IMPORTS
(Thousand Barrels Per Calendar Day)

Finished Gasoline	1981	1982	1983	1984	1984(1)	1985(1
Aviation Gasoline	0	0	1	2	0	0
Leaded Motor Gasoline	89	128	129	132	154	132
Unleaded Motor Gasoline	68	69	120	159	139	209
Gross Finished Imports	157	197	250	293	293	341
Less:						
Imports From Puerto Rico	26	18	14	13	11	7
Imports From Virgin Islands	54	60	55	49	55	31
Export	2	20	10	6	4	2
Net Finished Imports	75	119	171	225	223	301
Unfinished Gasoline						
Blending Components	24	42	35	79	58	76
Pentanes Plus	3	15	7	46	41	31
Special Naphthas	9	19	23	56	37	30
Petrochemical Naphthas	10	18	12	13	42	19
Gross Unfinished Imports	46	94	77	194	178	156
Less:						
From Virgin Islands & Puerto Rico:						
Blending Components	2	0	0	0	0	0
Special Naphthas	0	0	0	0	14	10
Exports of:						
Pentanes Plus	0	0	0	0	3	2
Petrochemical Naphthas	5	4	5	6	7	5
Special Naphthas	11	5	3	2	2	2
Net Unfinished Imports	28	85	69	186	152	147
Net Gasoline Range Imports	103	204	240	411	375	448

(1) Year-To-Date, March.

Source DOE/EIA.

COH/sc 05/07/85

CHART II

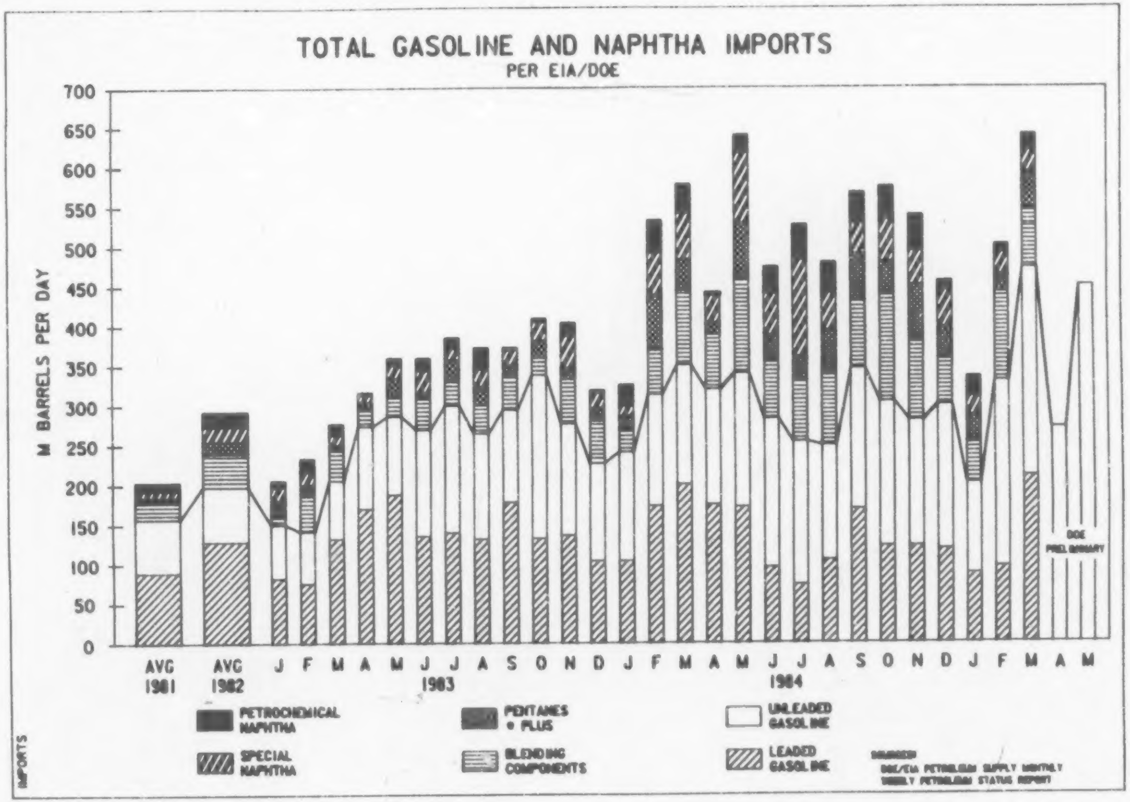

TOTAL GASOLINE AND NAPHTHA IMPORTS
PER EIA/DOE
M BARRELS PER DAY
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
AVG 1981
AVG 1982
J
F
M
A
M
J
J
A
S
O
N
D
1983
J
F
M
A
M
J
J
A
S
O
N
D
1984
J
F
M
A
M
DOE PRELIMINARY
PETROCHEMICAL NAPHTHA
SPECIAL NAPHTHA
PENTANES + PLUS
BLENDING COMPONENTS
UNLEADED GASOLINE
LEADED GASOLINE
SOURCES:
DOE/EIA PETROLEUM SUPPLY MONTHLY
WEEKLY PETROLEUM STATUS REPORT
IMPORTS

CHART 12

U.S. GASOLINE & NAPHTHA* IMPORTS BY COUNTRY OF ORIGIN

Cumulative January-December 1984

	Country of Orgin	M Barrels	MB/D	% of Total Gasoline & Naphtha Imports: Market Share	% of Total Gasoline & Naphtha Imports: Accumulated	% of U.S. Gasoline Supplied: Market Share	% of U.S. Gasoline Supplied: Accumulated
1.	Venezuela	38,237	104.5	21.8	21.8	1.6	1.6
2.	Netherlands	15,175	41.5	8.6	30.4	0.6	2.2
3.	Canada	12,816	35.0	7.3	37.7	0.5	2.7
4.	Brazil	12,807	35.0	7.3	45.0	0.5	3.2
5.	Romania	12,168	33.3	6.9	52.0	0.5	3.7
6.	China	11,845	32.4	6.8	58.7	0.5	4.2
7.	Algeria	9,167	25.1	5.2	63.9	0.4	4.6
8.	Italy	8,934	24.4	5.1	69.0	0.4	4.9
9.	Netherland Antilles	6,970	19.0	4.0	73.0	0.3	5.2
10.	United Kingdom	6,532	17.9	3.7	76.7	0.3	5.5
11.	Bahamas (N)	5,756	15.7	3.3	80.0	0.2	5.7
12.	Mexico	5,061	13.8	2.9	82.9	0.2	5.9
13.	Indonesia (N)	4,535	12.4	2.6	85.5	0.2	6.1
14.	India (N)	3,406	9.3	1.9	87.4	0.1	6.3
15.	United Arab Emirates	3,036	8.3	1.7	89.1	0.1	6.4
16.	Spain	2,465	6.7	1.4	90.5	0.1	6.5
17.	Belgium	2,373	6.5	1.4	91.9	0.1	6.6
18.	Saudi Arabia	1,859	5.1	1.1	92.9	0.1	6.7
19.	Greece	1,702	4.7	1.0	93.9	0.1	6.7
20.	West Germany (G)	1,474	4.0	0.8	94.7	0.1	6.8
	Other**	9,287	25.2	5.3	100.0	0.4	7.2
	Total:	175,604	479.8	100.0		7.2	

(G) Only gasoline imports.
(N) Only naphtha imports

* Includes imports under TSUSA Nos. 475.35 and 475.25.
** Includes In descending order, France, Trinidad, Argentina, Bahrain, Singapore (N), Peru (N), Yemen, Tunisia, Philippines, Yugoslavia, Norway, Cyprus, South Korea, Uruguay, U.S.S.R., Malaysia, Gabon, and Australia.

Source: Imports--U.S. Department of Commerce, Import Series IM145X; U.S. Gasoline Supplied--U.S. Department of Energy, Monthly Energy Review.

AF:CH/sc
04/22/85

CHART 13

U.S. Gasoline & Naphtha Imports
March 1985
(Barrels)

Country Of Origin	Leaded Gasoline	Unleaded Gasoline	Naphtha	Total	MB/D
Romania	0	263,099	2,032,314	2,295,413	74.0
Italy	1,502,188	497,218	0	1,999,406	64.5
Netherlands	572,157	1,147,749	0	1,719,906	55.5
Canada	384,413	980,778	321,230	1,686,421	54.4
Venezuela	0	712,464	886,377	1,598,841	51.6
United Kingdom	0	762,168	256,979	1,019,147	32.9
Saudi Arabia	25,043	975,284	0	1,000,327	32.3
Turkey	0	616,256	0	616,256	19.9
Brazil	230,499	380,440	0	610,939	19.7
W. Germany	509,788	0	0	509,788	16.4
India	0	0	470,402	470,402	15.2
China	391,908	0	0	391,908	12.6
Indonesia	0	0	256,973	256,973	8.3
Belgium	0	252,760	0	252,760	8.2
Algeria	0	0	246,095	246,095	7.9
Singapore	0	0	242,944	242,944	7.8
Neth. Ant.	125,547	82,319	0	207,866	6.7
Bahamas	0	0	204,994	204,994	6.6
Spain	0	155,308	0	155,308	5.0
France	0	0	152,809	152,809	4.9
Greece	108,091	0	0	108,091	3.5
Israel	0	0	14,456	14,456	0.5
Panama	10,090	0	0	10,090	0.3
Undersized	0	0	3,391	3,391	0.1
Total	3,859,724	6,825,843	5,088,964	15,774,531	508.9
MB/D	124.5	220.2	164.2	508.9	--

(1) Shipments of less than 10,000 barrels each, details not published by Platts.

Source: U.S. Department of Commerce, Import Series IM145X, as published by Platt's Oil Export/Import Report.

AF:CH/sc
05/21/85

CHART 14

U.S. Gasoline & Naphtha Imports
Cumulative January-March, 1985

(Barrels)

Country Of Origin	Leaded Gasoline	Unleaded Gasoline	Naphtha	Total	MB/D
Venezuela	0	2,302,051	3,829,575	6,131,626	68.1
Netherlands	1,107,879	2,748,883	13,348	3,870,110	43.0
Italy	2,584,566	732,545	169,203	3,486,314	38.7
Romania	0	263,099	2,962,623	3,225,722	35.8
Canada	591,035	1,350,399	755,960	2,697,394	30.0
Saudi Arabia	190,908	2,253,889	0	2,444,797	27.2
Neth. Antilles	488,909	259,047	1,168,059	1,916,015	21.3
United Kingdom	0	1,234,902	617,570	1,852,472	20.6
Brazil	754,859	874,418	20,800	1,650,077	18.3
Bahamas	0	0	1,512,243	1,512,243	16.8
West Germany	1,096,397	0	0	1,096,397	12.2
Turkey	0	616,256	229,404	845,660	9.4
China	691,024	121,503	0	812,527	9.0
Indonesia	0	0	520,549	520,549	5.8
India	0	0	470,402	470,402	5.2
Algeria	0	0	466,123	466,123	5.2
Belgium	0	417,611	0	417,611	4.6
Singapore	0	0	242,944	242,944	2.7
U.S.S.R.	242,595	0	0	242,595	2.7
Peru	0	0	222,929	222,929	2.5
Yugoslavia	174,342	0	0	174,342	1.9
Spain	0	155,308	0	155,308	1.7
France	0	0	152,809	152,809	1.7
Greece	108,091	0	0	108,091	1.2
Bahrain	0	0	95,748	95,748	1.1
Argentina	0	0	41,571	41,571	0.5
Trinidad	15,036	18,275	0	33,311	0.4
Israel	0	0	14,456	14,456	0.2
Japan	0	0	13,756	13,756	0.2
Panama	10,090	0	0	10,090	0.1
Undersized(1)	11,719	1,673	159,706	173,098	1.9
Total	8,067,450	13,349,859	13,679,778	35,097,087	390.0
MB/D	89.6	148.3	152.0	390.0	--

(1)Shipments of less than 10,000 barrels each, details not published by Platts.

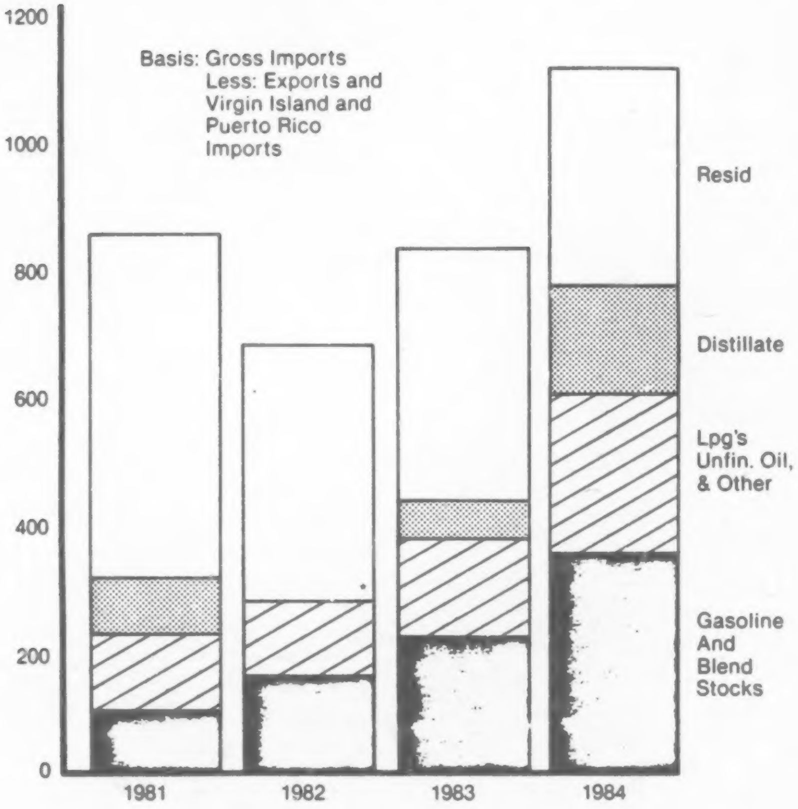
Source: U.S. Department of Commerce, Import Series IM145X, as published by Platt's Oil Export/Import Report.

AF:CH/sc
05/21/85

CHART 15

Net
U.S. Petroleum Product Imports

MB/Calendar Day



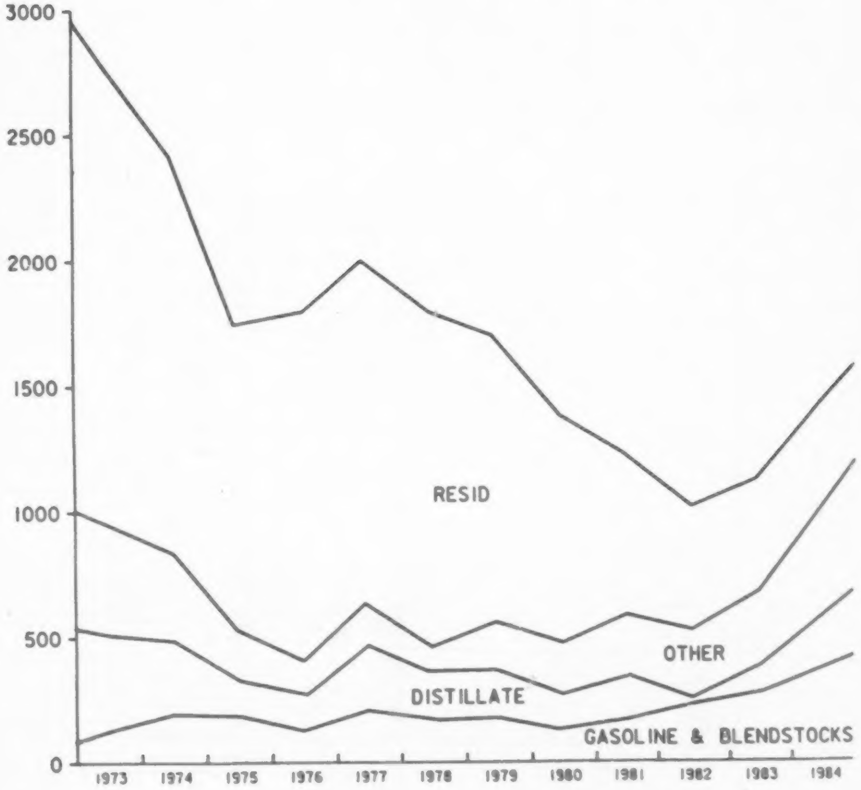
*Net Dist.
Export
Of 40

Source: DOE/EIA
By: COH 3/28/85

CHART 16

NET REFINED PRODUCTS IMPORTS

(THOUSAND BARRELS PER DAY)

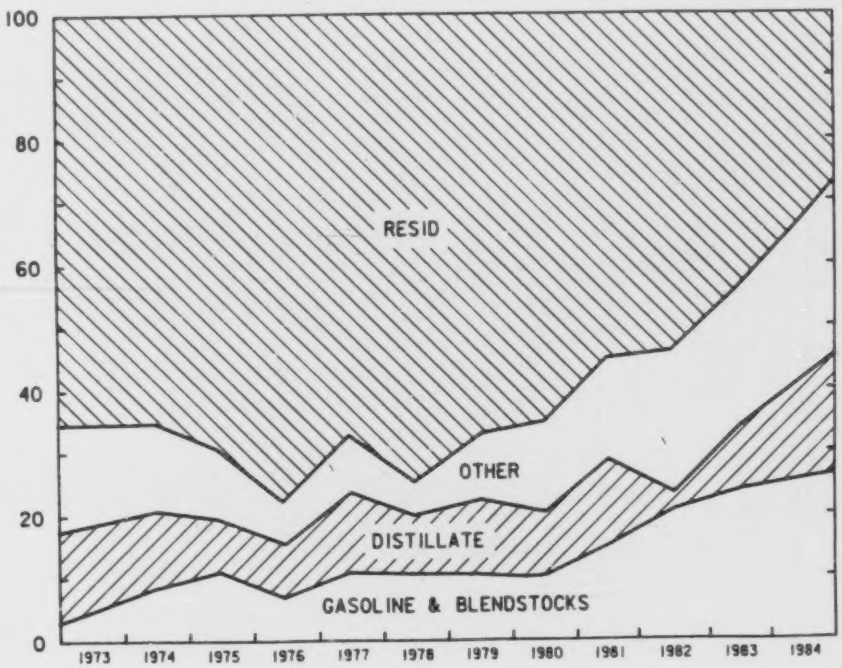


SOURCE: DOE/EIA
MONTHLY ENERGY REVIEW

CHART 17

COMPOSITION OF NET REFINED PRODUCT IMPORTS

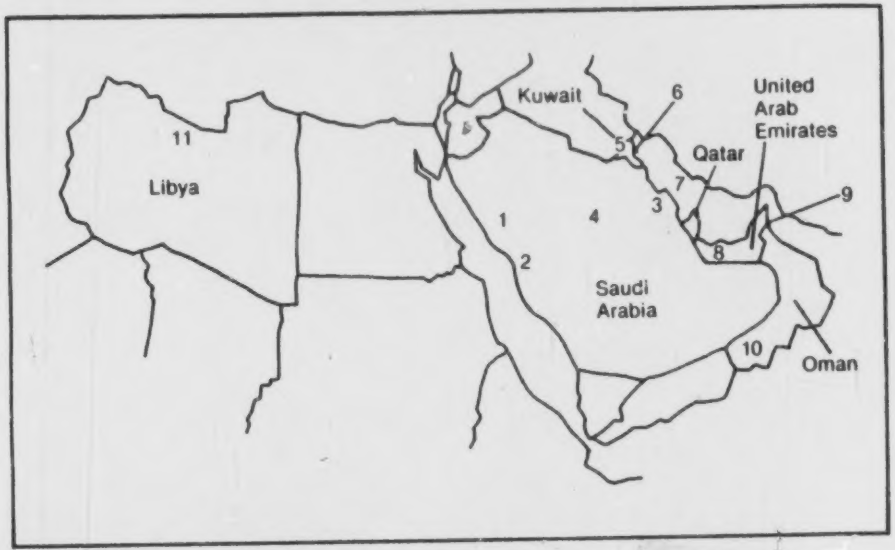
(PERCENT)



SOURCE: DOE/EIA
MONTHLY ENERGY REVIEW

CHART 18

Major Export Refinery Projects



1 Yanbu
250,000 B/D
1984

2 Rabigh
325,000 B/D
1986

3 Jubail
270,000 B/D
1985

4 Buraidah
160,000 B/D
1987

5 Mina Abdulla
156,250 B/D
1986

6 Mina Al Ahmadi
170,000 B/D
1984
100,000 B/D
1986

7 UMM Said II
50,000 B/D
1984

8 Ruwais II
185,000 B/D
uncertain

9 Ajman
171,000 B/D
1987

10 Salalah
200,000 B/D
uncertain

11 Ras Lunuf
228,000
1986

CHART 19

Middle East Refining Capacity

Barrels Per Day
As Of January 1

	Crude Distillation	Catalytic Cracking	Thermal Operations	Catalytic Reforming	Hydro-Processing	Other
1978	3,256,913	245,600	60,100	189,470	441,676	720,405
1980	3,202,880	271,704	124,009	208,084	586,819	955,235
1982	2,920,502	262,781	184,109	208,712	482,597	761,059
1983	3,245,583	261,270	188,999	214,273	483,315	778,502
1984	3,430,702	289,270	188,999	263,919	535,833	815,416
1985	3,596,360	332,070	202,999	299,940	840,183	873,228

SOURCE: Oil & Gas Journal

CH/05/24/85

CHART 20

U.S. Refinery Operating Capacity and Utilization

1950 to Present

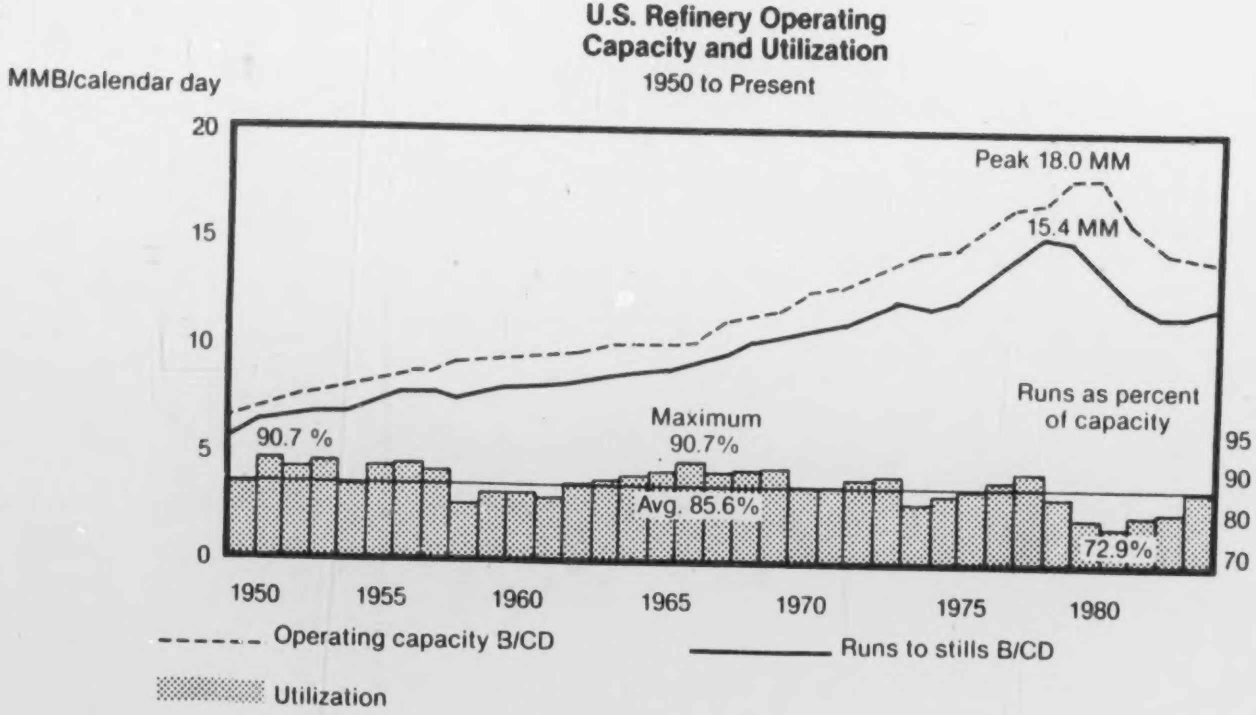


CHART 21

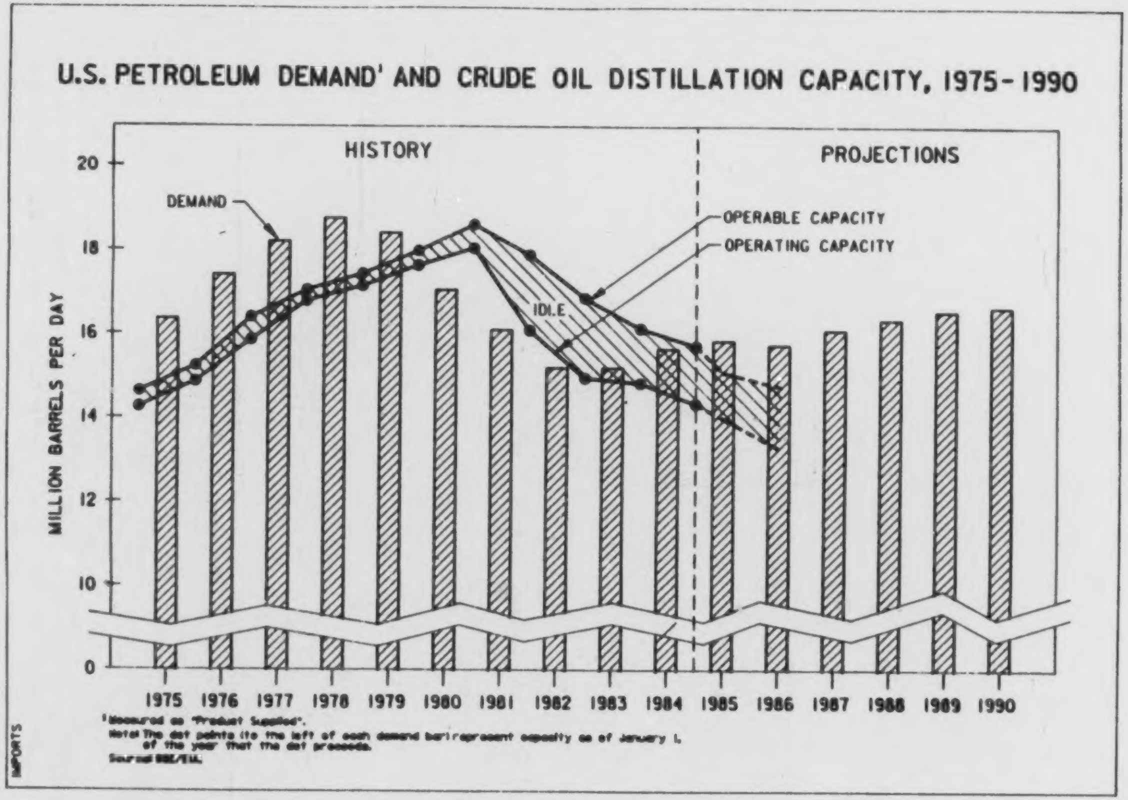
U.S. REFINING CAPACITY REQUIREMENTS

	Million Barrels Per Day	
	1983[1]	1984[2]
Total "Oil" Consumption	15.39	15.71
Less:		
NGL's Consumed Directly	1.62	1.58
Net NGL's Blended in Refineries	0.13	0.13
Intermediate and Blending Components	0.50	0.59
Processing Gain	0.49	0.56
Required Crude Distillation Capacity 100% Utilization, Zero Finished Product Imports	12.65	12.85
Required Calendar Day Refining Capacity:		
@ 90% utilization	14.0	14.3
@ 85% utililzation	14.9	15.1

(1) "The Changing Structure of World Refining Industry: Implications for U.S. Energy Security," Fereidun Fesharaki and David Isaak, OPEC Downstream Project, East-West Center, presented to DOE January 23, 1985.

(2) DOE/EIA Petroleum Supply Monthly.

CHART 22



U.S. PETROLEUM DEMAND¹ AND CRUDE OIL DISTILLATION CAPACITY, 1975-1990

¹Measured as "Product Supplied".

Note: The dot points (to the left of each demand bar) represent capacity as of January 1 of the year that the dot precedes.

Source: DOE/EIA.

CHART 23

U.S. Refining Capacity

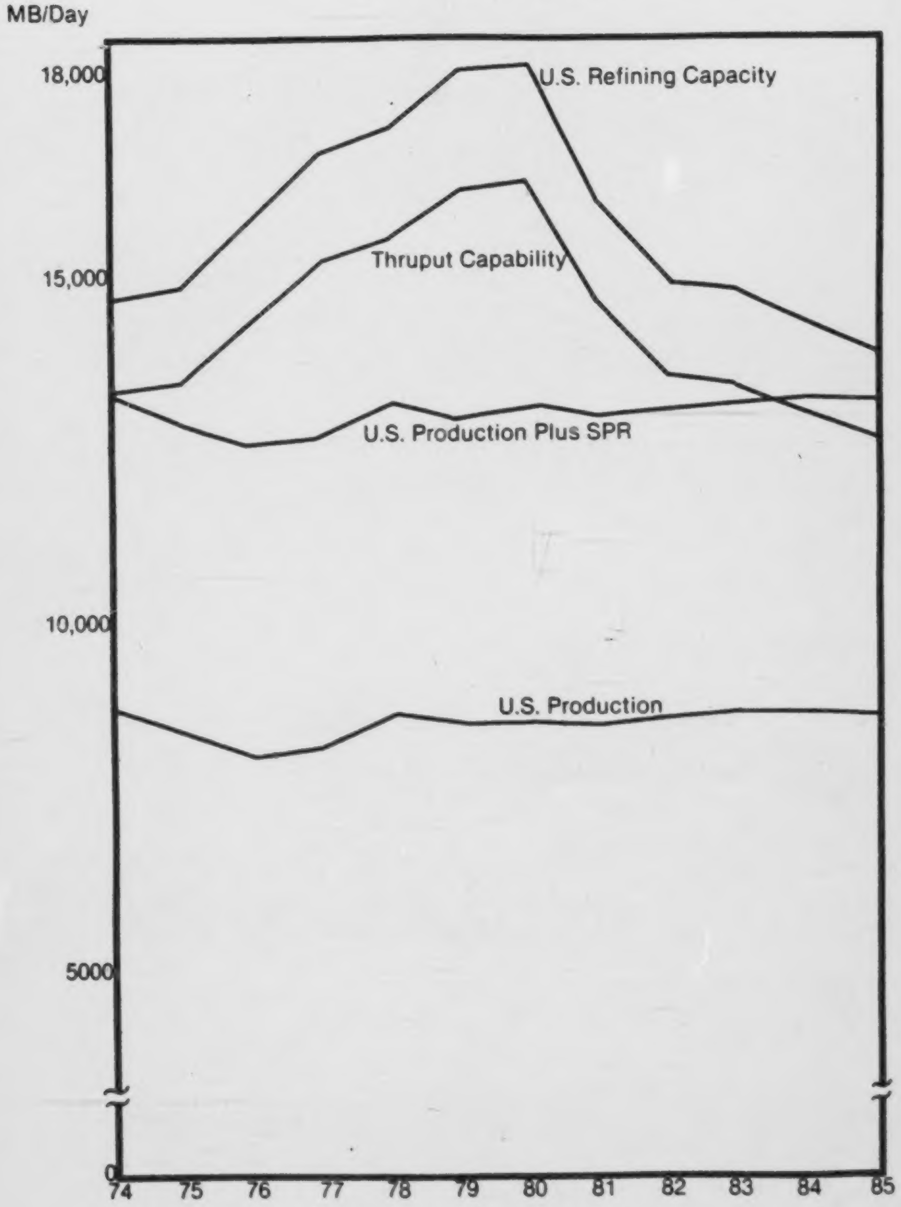


CHART 24

REFINERY CAPACITY REQUIRED TO PROCESS SPR WITHDRAWALS(1)
(MMBCD)

Assumed SPR Withdrawal Rate	2.3	2.7	3.4	4.5
Domestic Crude Oil Production	8.757	8.757	8.757	8.757
NGL's in Refinery Input	.499	.499	.499	.499
Domestic Production to Refineries	9.256	9.256	9.256	9.256
SPR Withdrawal Rate	2.3	2.7	3.4	4.5
Average Capacity Needed:				
@ 100% Utilization Rate	11.556	11.956	12.656	13.756
@ 90% Utilization Rate	12.8	13.3	14.0	15.3
@ 85% Utilization Rate	13.6	14.0	14.9	16.2
DOE Operating Capacity 1/1/84	14.8	14.8	14.8	14.8
Shutdowns Since 1/1/84	0.8	0.8	0.8	0.8
Current Operating Capacity 5/1/85(2)	14.0	14.0	14.0	14.0
Additional Refining Capacity Required @ 90%	(1.2)	(0.7)	0.0	1.3
Additional Refining Capacity Required @ 85%	(0.4)	0.0	0.9	2.2

(1) Based on DOE/EIA's 1984 Petroleum Balances.

(2) Numbers do not subtract due to individual rounding.

CHART 25

MILITARY FUEL CONSUMPTION*

(thousand barrels)

	1984	1983	1982
Propane	20	5	7
Motor Gasoline	4820	5132	5338
Gasohol	27	39	41
Aviation Gasoline	268	397	595
Total Gasoline	5115	5568	5974
JP4	94614	97179	95771
JP5	20595	21451	22347
JP8	3828	3514	3942
Total Jet Fuel	119037	122144	122060
Distillate	37069	34866	36632
Fuel Oil	11774	11952	13753
Residual Fuel Oil	5187	5121	4726
Reclaimed Fuel Oil	110	29	30
Total Fuel Oil	17071	17102	18509
Total	178312	179685	183182
Total MBCD	487	492	502

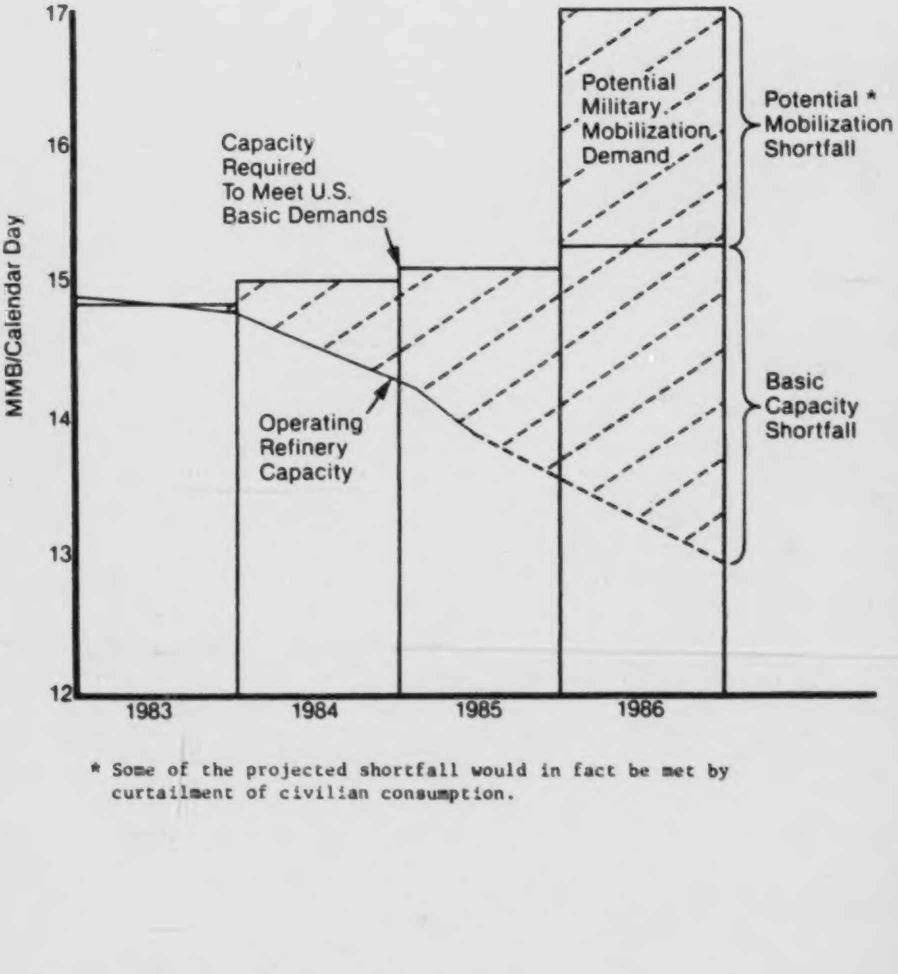
Source: Defense Fuel Supply Center

*Includes fuels for Army, Navy, Air Force, Marines, the Defense Logistics Agency and other Department of Defense agencies.

NOTE: According to Jeff Jones, Deputy Director of Energy Programs in the Office of the Secretary of Defense, at the April 1, 1985 hearing before the Environment, Energy, and Natural Resources Subcommittee of the House Committee on Government Operations. The volume would quadruple to 2 million barrels per day overnight in the event of a mobilization.

CHART 26

Required Refining Capacity Vs. Available Capacity



* Some of the projected shortfall would in fact be met by curtailment of civilian consumption.

APPENDIX A

MEMBERS OF THE INDEPENDENT REFINERS COALITION

Amber Refining, Inc.

American Independent Refiners Association

Apex Oil Company

Ashland Oil Company

Coastal Corporation, The

Crown Central Petroleum Corporation

Diamond Shamrock Corporation

Golden West Refining Company

Indiana Farm Bureau Cooperative Association, Inc.

Macmillan Ring-Free Oil Company, Inc.

National Cooperative Refinery Association

Paramount Petroleum Corporation

Placid Refining Company

Pride Refining, Inc.

Rock Island Refining Corporation

Tesoro Petroleum Corporation

Texas City Refining, Inc.

Tosco Corporation

Valero Energy Corp./Saber Energy, Inc.

CAPACITY OF MEMBERS OF THE INDEPENDENT REFINERS COALITION

Member of IRC Only	Total Crude(1) Distillation Capacity MBCD	Operating Crude(1) Distillation Capacity MBCD	Downstream(2) Processing Capacity MBCD
Apex Oil Company	104,500	104,500	251,500
Ashland Oil Company	462,943	353,343	1,076,000
The Coastal Corporation	171,300	171,300	312,000
Crown Central Petroleum Corp.	100,000	100,000	189,500
Diamond Shamrock Corporation	116,800	116,800	211,840
Indiana Farm Bureau Co-op.	21,200	21,200	21,600
Paramount Petroleum Corp.	46,500	32,000	83,000
Placid Refining Company	45,000	45,000	54,200
Pride Refining, Inc.	42,750	42,750	14,500
Rock Island Refining Corp.	43,200	43,200	75,000
Tesoro Petroleum Corp.	74,600	74,600	23,000
Texas City Refining, Inc.	119,600	119,600	189,200
Member of Both IRC and AIRA			
E-Z Serve Inc. Amber Refining Co.	20,000	20,000	19,000
Golden West Refining Company	42,000	42,000	101,300
MacMillan Ring-Free Oil Co. Inc.	16,880	15,600	7,650
National Co-op. Refinery Assn.	54,000	54,000	95,500
Tosco Corporation	258,800	164,500	578,100
Valero Energy Corp./ Saber Refining Co.	-0-	-0-	138,300
Member of AIRA Only			
Asamera Oil (U.S.), Inc.	26,000	26,000	48,000
Beacon Oil Company	17,300	17,300	11,730
Edgington Oil Company, Inc.	22,880	22,880	36,600
Fletcher Oil & Refining Co.	29,500	29,500	23,650
Holly Corporation	29,930	29,930	49,400
Huntway Refining Company	4,750	4,750	5,000
Newhall Refining Company, Inc.	21,400	21,400	22,000
Oxnard Refinery	4,000	4,000	2,500
Southland Oil Company	16,800	16,800	15,695
Sunland Refining Corporation	12,000	12,000	-0-
U.S. Oil & Refining, Inc.	25,000	25,000	41,500
Young Refining Corporation	12,400	12,400	7,316
	1,962,033	1,742,353	3,704,681

Source: DOE/EIA U.S. Refining Capacity: 1984

(1) As of 1/1/84

(2) Includes: vacuum distillation, thermal operation, catalytic cracking (fresh), catalytic reforming, catalytic hydrocracking, catalytic hydrotreating, alkylation, asphalt, aromatic isomerization, lubricating oils.

REV:COH 4/22/85

TRADE BARRIERS IN THE MAJOR REFINED PRODUCT MARKETS: EUROPE, JAPAN AND THE UNITED STATES

A recent analysis by the consulting firm of Nytex-Bridgeview Petroleum (Petroleum Intelligence Weekly, May 6, 1985) compares tariffs and other trade barriers between the three major refined products markets: the U.S., Japan and Western Europe.

Japan has the highest barriers. PIW reports, "The present combination of import quotas and tariffs virtually rules out imports of gasoline and many other light finished products, but is less stringent on naphtha and straight-run low sulphur fuel oil." If Japan did allow any gasoline imports, the effective tariff would be $2.22 per barrel.

EC tariffs are lower than Japan's, but higher than U.S. tariffs on most products. Naphtha and crude enter the EC tariff-free. Arabian and North African producers enjoy preferential duty-free status (GSP) on all petroleum products, but only up to a specified level. This limitation has not generally been enforced to-date. The EC's non-preferential gasoline tariff is 6 percent ad valorem. This tariff largely keeps out gasoline from non-preferential sources like the United States, Eastern Europe and the Soviet Union. This ad valorem tariff may be applied to imports from Arabian and North African producers that exceed their GSP-allowable levels. The gasoline tariff in Europe is $1.66 per barrel.

U.S. gasoline tariffs are generally the lowest. The effective tariff rate is 52.5¢ per barrel, or 1.25¢ per gallon.

The new trade issue facing Japan, Western Europe and the United States is where the product flow from the new export refineries in the Middle East will go. These government refineries will run at the 85 - 90 percent rate regardless of demand conditions in export markets, absorbing any losses on refined product sales by discounting crude input prices from world market levels.

The EC estimates that new refining capacity in just three countries -- Saudi Arabia, Kuwait and Libya -- will produce about 1.2 million b/d of new refined products for export by 1990. The EC anticipates being able to absorb no more than one-third of this new supply. The EC is proposing that the U.S., Japan and the EC should enter bilateral agreements to accept a third of this new supply each (Commission of the European Communities Report, Brussels, March 1, 1985).

There is a major obstacle in the way of such concordance. The Japanese have rejected the notion of sharing the new Middle East exports (Platt's Oilgram News, May 23, 1985). Currently, Japan does not permit any gasoline imports at all.(Appendix B) Japan bases its restrictive policy in part on national security requirements and in part on economics. In Japan, high gasoline prices subsidize the production of lower-cost kerosene, Japan's major source of home heating fuel. Japan will be reluctant at best to import gasoline at the risk of shutting down its refineries and raising the price of home heating fuel.

Press reports have indicated that U.S. diplomatic sources assert that market forces should direct the flow of this new production. Because transportation costs from the Persian Gulf to Europe and the Far East are significantly below transportation costs to the United States, market forces should direct the product to those two regions. But if Europe takes only one-third of the new production -- in effect, limiting imports of all refined products to a net of seven percent of total demand -- and Japan keeps its market closed, the lion's share of the new product will come to the United States. It will be sold at whatever price is necessary to penetrate this market.

APPENDIX B

THE WASHINGTON POST, January 17, 1985

Oil Firm's Bid to Import Gasoline Into Japan Fails

By John Burgess
Washington Post Foreign Service

TOKYO, Jan. 16—A maverick Japanese oil company has failed in an attempt to break a long-standing informal ban on importing gasoline into Japan, but says it will try again soon.

Lions Petroleum Co. brought a tanker carrying 800,000 gallons of premium gasoline refined in Singapore to Kobe in December, intending to price it below domestic brands at neighborhood filling stations.

But following pressure from the company's bank and the Ministry of International Trade and Industry (MITI), it abandoned the plan and sold the shipment to a refinery for reprocessing, according to company President Taiji Sato.

MITI contends that the cheap fuel could have helped disrupt price stability in a strategic commodity and put further pressure on Japan's seriously ailing refining industry.

Last year, the government went on record favoring the liberalization of petroleum product imports, officials say, but wants it to come slowly to assure stability during the transition.

But Sato rejects these arguments. "If I can get financial support, I'm willing to try it again," he said. "If I had a sponsor, an American bank, for instance, I would be ready to proceed." He said he planned to return to Singapore later this month to negotiate another purchase.

Sato's move, which he said he planned for 18 months, is highly unusual in Japan, where large and small companies alike generally play according to rules set by gentleman's agreement and government guidance.

Today, the action drew condemnation from the Petroleum Association of Japan, which links the country's 29 oil refining companies. Its president, Yasuoki Takeuchi, told a press conference that any imports should be handled by association members, not outsiders like Lions.

Sato's attempt also has drawn attention to the strict controls and protection that Japan maintains for some industries that are not internationally competitive, despite much-publicized steps toward liberalization of imports in recent years.

Japanese consumer spokesmen, meanwhile, have criticized the government for blocking the introduction of lower-cost gasoline.

Sato said that the lower prices charged by the Singapore refinery would have allowed him to sell the fuel to motorists in Japan for about 10 cents per gallon cheaper than domestic gasoline.

With virtually no oil resources of its own, Japan imports about 4 million barrels of petroleum per day. Eighty percent of it is crude oil. Refined products that are allowed is center on naphtha and fuel oil.

Japan's highly mobile society consumes about 9 billion gallons of gasoline per year, all of it refined in Japan. There is no formal ban on imports, but because of "administrative guidance" from MITI and consensus within the industry, none come in.

Japan invested heavily in refineries in the 1970s. But the two oil shocks of the decade left it with much idle capacity. Many of the 29 refining companies are ailing badly, with government encouraging mergers to create units that are more viable financially.

Domestic prices are not formally controlled. But an elaborate structure has emerged in which prices remain stable, with gasoline selling at a comparatively high price to allow cheap prices for kerosene, an important home-heating fuel here.

Meanwhile, Japan has come under fire from the International Energy Agency for the product import controls. During a visit to Tokyo earlier this month, IEA Executive Director Helga Steeg stressed the need for freer flow. However, Foreign Ministry officials say she did not specifically comment on the Lions case.

APPENDIX C

Summary of Memorandum on the Use of Quotas and Import Fees Under Section 232

A voluntary crude oil import program was instituted in 1955, the objective of which was to maintain domestic crude production. This was converted to a Mandatory Oil Import Program of quotas in 1959. These quotas were increased periodically until 1973, when license fees were instituted on petroleum and refined product imports. In 1974, the program was modified to provide fee-exempt import licenses for new, expanded and reactivated refineries and petrochemical plants.

Supplemental $3 per barrel fees on crude oil and refined products were proposed in early 1975, but were never fully implemented. In 1979, after the Iranian revolution, all import fees were suspended to removed disincentives to import during the shortage. A substitute for import fees, in the form of a "gasoline conservation fee" on imported crude oil, was instituted by the President in 1980. It was held to be illegal, not due to the fee, but due to an overextension of Executive power into an area controlled by Congress. The objective was to reduce overall demand for oil, rather than to provide a disincentive to demand for imported crude oil and gasoline.

These actions were taken under Section 232 of the Trade Expansion Act of 1962 or its predecessors. A succession of presidents took these actions to protect U.S. national security upon the finding of a designated Cabinet officer that national security was threatened. That was the Secretary of the Treasury in 1975 and 1979. Currently, this decision would be made by the Secretary of Commerce. Any such action relating to petroleum and petroleum product imports can be disapproved by a specific form of Joint Resolution reported by the Senate Finance and House Ways and Means Committee, since the actions taken generally fall under the general taxing regulation of international trade authority in the Congress.

In 1973, 1975 and 1979, the actions taken were in the form of import or license fees rather than quotas. The Cabinet Task Force on Oil Import Control in 1970 emphasized that actions directly affecting price as opposed to volume controls could accomplish the objectives with minimum cost and maximum advantage to the economy; with minimum disruption to, and maximum opportunity for, the free play of competitive market forces; and to avoid undue adverse effects on either our balance of payments or our foreign relations. The 1979 case pointed out that the high level of the nation's consumption of gasoline is the single most important cause of our dependence on foreign oil. The Presidential Proclamation also stated that adequate action on crude oil and gasoline imports alone could be taken "with less serious consequences to our economy than if similar action were taken with respect to other petroleum products, such as home heating oil." (See Presidential Proclamation 4744, 45 Fed. Reg. 22864, 1980)

APPENDIX D

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ATTORNEYS AT LAW
SUITE 400
1333 NEW HAMPSHIRE AVENUE, N.W.
WASHINGTON, D.C. 20036
202-887-4000

MEMORANDUM

TO: Independent Refiners Coalition

RE: Legal Impediments To Obtaining Relief Under The U.S. Antidumping And Countervailing Duty Laws

DATE: May 8, 1985

As reflected in our earlier discussions and analyses, we believe that it would be extremely difficult for the IRC to obtain meaningful relief from imports of cheaply-priced gasoline under the U.S. antidumping and countervailing duty laws. The principal reasons for this conclusion are that: (1) the U.S. unfair trade laws, as presently constructed, do not adequately remedy the injurious effect on U.S. refiners of below-market pricing of crude oil in certain foreign countries and the resultant competitive benefit given to foreign refiners; and (2) the unfair trade laws do not adequately respond to the special case of Non-Market Economy (NME) countries. The general problems associated with crude input pricing and NME nations are discussed below.

I. CRUDE INPUT PRICING

The commercial viability of a refiner is determined largely by the difference between the cost of its crude oil input and the prevailing market price for refined products. When foreign governments transfer their domestic crude oil at a price level which is significantly below the world market price, this causes a severe commercial distortion in the refined products sector, since purchasers of this underpriced crude are encouraged to produce greater volumes of refined products and sell at non-economic price levels. U.S. refiners, who do not have access to this subsidized crude oil, find themselves at a severe competitive disadvantage. This difficulty in their ability to compete does not reflect the relative efficiencies of the U.S. and foreign refining operations, but is due solely to the large gap in the prices of crude oil which U.S. and certain foreign refiners must pay. This distortion, however, is not remediable under current antidumping or countervailing duty laws.

A. Antidumping Issues

Crude oil pricing becomes an issue only when the dumping calculation is based on constructed value as the foreign market value.[1] However, under current Departmental procedures it is unlikely that the Department would calculate a high foreign market value based on constructed value, because the major factor in the cost of gasoline is the cost of crude oil. The price of the crude oil input used in this modified cost of production calculation is likely to be far below the world market price. The result would be a constructed value of gasoline which is below prevailing market prices, thus leading to a finding of no dumping.

Imported gasoline is considered dumped to the extent that its U.S. price is below its foreign market value. Foreign market value is defined as home market prices, third country export prices or constructed value.[2] From the perspective of the

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1/ Constructed value is a modified cost of production calculation. In simple terms, constructed value is the cost of materials, labor and fabrication plus an amount equal to no less than 10 percent of the above for general, selling and administrative expenses plus a minimum of 8 percent of total costs for profits.

2/ Significant import relief cannot be expected if the Department were to perform a home market to U.S. price comparison. The home market prices of equivalent sales would have to be substantially higher in the foreign home markets for any significant dumping margins to be found. Surveys of home market prices in the countries under consideration have revealed gasoline prices in the United States to be, in general, substantially higher than those in the "home markets." This would lead to a finding of no dumping margins. The home market prices are lower in these countries because the prices net of tax are generally government-controlled and held artificially low for various social and economic reasons. Moreover, these lower home market prices also provide further economic incentive to these foreign refiners to produce for export.

Similarly, the chance of obtaining meaningful relief by comparing U.S. prices to prices of equivalent sales in another export market is small. The Department would choose a third country market most similar in volume and product characteristics to the U.S. The large volume, non-U.S. export markets have prices comparable to those in the U.S. The high priced gasoline markets (i.e., South Korea and Finland) are not likely to be chosen as third country markets most similar to the U.S. because of their small volumes relative to U.S. market volumes.

Department of Commerce, constructed value is the least preferred method of defining foreign market value, and will only be used if home market or third country prices are judged unsuitable. The Department generally can only be persuaded to use this approach if nearly all home market and export sales are made at prices below the fully allocated cost of producing gasoline.

The price of crude used in the constructed value calculation is likely to reflect one of the following three commercial situations: (1) the foreign refiner purchases crude in an open, unregulated market at a price approximating the world market price. (This is analogous to many U.S. refiners); (2) the foreign refiner purchases crude in its domestic market at a low, government-controlled price or directly from a state-owned crude producer at below world market prices; (3) the foreign refiner is related to the foreign crude producer and receives its crude at a transfer price which is below the world market price.

In the first case, the price for crude used in calculating that refiner's cost of producing gasoline would be the unregulated market price. Since the refiner's other costs are likely to be quite similar to those experienced by American refiners, the resultant cost of production should be close to the U.S. cost experience. Assuming that this foreign refiner is not substantially more efficient then its U.S. counterpart, it is likely that current home market and third country prices would be below its cost of production. In this case, it's probable that there would be dumping margins found.

However, refiners who are paying world market prices for their crude are not likely to be flooding the U.S. market with below-cost gasoline. We believe that the second and third types of commercial situations predominate in those countries primarily responsible for the recent, rapid rise in refined product imports. In the second situation, where the foreign refiner is purchasing crude in its domestic market at an artificially low price, the Department is likely to use this price in a cost of production calculation as long as it is widely available. This would lead to a calculation of a low-constructed value and a finding of no dumping.

In the third situation where the foreign refiner is related to the foreign crude producer, the crude input would be valued at the cost of recovery of the crude oil. In this case, the result is also a low-constructed value calculation and a finding of no dumping. In our opinion, this is the most common situation in the countries under consideration here.

B. Countervailing Duty Issues

A refiner who receives crude oil at below market prices benefits from a substantial subsidy. However, under current law, such a subsidy is not necessarily countervailable. The Commerce Department is likely to view this as a case concerning "upstream subsidies." Upstream subsidies have been investigated in past cases, all with negative findings. Even in cases where the input's transfer price was well below a world market price, the Department has failed to find countervailable subsidies on the grounds that the low prices were "generally available."[3/] Although upstream subsidies were addressed specifically in the Trade and Tariff Act of 1984, we do not believe that the chances of prevailing on this issue have been improved as a result.[4/] Indeed, the Act adopted the concept previously utilized in those cases, and has applied an even more stringent initiation standard in recent cases.[5/]

In order to establish the existence of upstream subsidies, we would first have to show that producers or sellers of crude are subsidized. Such a showing would entail an exhaustive investigation into financial health, industrial structure and government support of the petroleum industry. While the foreign

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3/ One of the most notable cases was Ammonia from Mexico, which focused on subsidized natural gas. Although the input's transfer price was well below a world market price, the Department failed to find that countervailable subsidies were bestowed to ammonia producers on the ground that natural gas was purchased by a number of industries at the artificially low price. (Final Negative Countervailing Duty Determination Anhydrous and Aqua Ammonia from Mexico, 48 Fed. Reg. 28, 522 (1983).

4/ Under that Act, in order to prevail, it must be shown: (1) that a subsidy on an input has been bestowed by the government; (2) that the subsidy has conveyed a competitive benefit; and (3) that the value of the input is significant to overall production cost.

5/ The Department will initiate an investigation only if there are "reasonable grounds" to believe or suspect that upstream subsidies are being bestowed on a product. In Certain Ethyl Alcohol from Brazil, Investigation No. C-351-501, 50 Fed. Reg. 16727 (April 29, 1985), the Department interpreted that standard to impose a burden on petitioners, first, to quantify the amount of the upstream subsidy, and second, to specify how much of that subsidy is passed through to producers of the subject merchandise.

petroleum industry is often nationalized, government ownership alone is not sufficient to establish subsidization. It is only when governments purchase equity in or heavily lend to troubled companies that countervailable subsidies flow. Foregoing income by selling to nationals at prices below the world market level would normally not be considered evidence of a subsidy. Moreover, the Department believes that government-run enterprises need not be profitable - they need only collect sufficient revenues to offset long-term costs. Thus, establishing that foreign petroleum industries are subsidized would be problematic.

Even if it were possible to prove subsidization of the crude oil sector, it would be necessary to show that refiners receive a commercial benefit from these subsidies. According to the Trade and Tariff Act of 1984, a competitive benefit has been bestowed "when the price for the input product . . . is lower than the price that the manufacturer of the [exported] merchandise . . . would otherwise pay for the product from another seller in an arms-length transaction." The key to establishing commercial benefit is determining whether the transfer price is an arms-length price. If both related and unrelated refiners receive crude at the same price, the Department is likely to find the price to be arms-length. This is true even if the price is held artificially low by government price controls.6/

Finally, even if we were to demonstrate that crude oil was heavily subsidized, we would need to demonstrate that this subsidy was not generally available. The Department's current policy is that subsidies which are available to a number of industries are not countervailable. In our case, we can make the strong assertion that, since the refining sector is the dominant purchaser of crude oil, upstream subsidies passed to refiners through the low price of crude oil are not likely to be generally available. Therefore, we could argue that they should be countervailable. Still, the Department could disagree on this point and ultimately deny relief.

In summary, the upstream subsidies provision is not likely to provide meaningful relief in this case. The competitive benefit concept was a positive result of the Trade and Tariff Act of 1984, in that it implied a recognition that world market price is the appropriate benchmark for determining what constitutes a

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6/ This issue currently is under review in the ongoing countervailing duty investigation concerning ethanol from Brazil. If a country which holds the price of its domestic oil at below market prices also resells crude oil at low government-controlled prices, this could be construed as eliminating the commercial benefit.

subsidy. Nevertheless, this is the second step of the statutory test. The Act mandates an initial showing of the existence of a subsidy on an input. This test erects a barrier that may be insurmountable. Thus, although we may well be able to prove both that the industry is receiving subsidies which are not generally available and that the value of the subsidized crude input is significant, effective relief nonetheless is likely to be blocked.

II. NON-MARKET ECONOMY COUNTRIES

Non-market economy countries are exporting gasoline and other refined products in increasing quantities. Unfortunately, gaining relief from unfairly traded non-market economy products is a cumbersome process which can lead to an uncertain result. Therefore, we believe it is quite uncertain whether meaningful relief could be gained with respect to their imports as described below.

A. Antidumping Issues

Unfairly traded imports from NMEs are judged by a different standard of fair value from those of market economy countries. With respect to antidumping actions, internal prices or costs are considered unsuitable for determining foreign market value because they do not reflect market forces. For this reason, the Department selects a "surrogate" country and uses that country's price or production costs to represent foreign market value. The surrogate selection process is difficult, for a variety of reasons, and can lead to highly unpredictable results. Moreover, most any surrogate would reflect the distortions outlined above.7/ Thus any attempt to gain relief from NME gasoline imports would be problematic at best.

B. Countervailing Duty Issues

The Department has ruled that the countervailing duty law does not apply to merchandise from an NME. The Department has

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7/ Thus, for example, if Mexico were chosen as a surrogate for Rumania, the distortion caused by below market domestic crude oil input prices would, as noted, result in a low constructed value calculation. Price-to-price comparisons would be equally unlikely to lead to significant import relief, as discussed in Footnote 1 *infra*.

determined in the past that the lack of a market economy has rendered the concept of subsidization meaningless.[8] Therefore, there does not appear to be reasonable relief available to U.S. refiners from non-market economy imports.

8/ This issue is on appeal in Carbon Steel Wire Rod from Poland and Czechoslovakia, Final Negative Countervailing Duty Determination, 49 Fed. Reg. 19371, 19375 (May 7, 1984). But even if the issue is won on appeal, significant problems remain. Indeed, such a victory might not open a new avenue of relief for the domestic refiners. The gathering of the necessary data on NME subsidies is very difficult at best. Moreover, verification of these data could be a substantial problem, rendering the final outcome unpredictable.

STATEMENT BY ROBERT T. McCOWAN, VICE CHAIRMAN OF THE BOARD, ASHLAND OIL, INC., ASHLAND, KY

Mr. McCOWAN. Thank you, Mr. Chairman, we appreciate being here. I am Robert McCowan. I am vice chairman of Ashland Oil.

Our company operates three refineries with throughput capacity of 350,000 barrels a day. On the last panel one of the witnesses, Mr. Morgan, commented about our company not paying tax in 1983. And I will tell you, one of the reasons is that we shutdown four refineries over the last 4 years, while making large investments in our present refineries to bring them to be the most efficient refineries in the world.

We believe the continued shutdown of U.S. refineries constitutes a threat to the national security of the United States. In the past, Government's action in taxing authority has focused primarily on crude oil. That attention and authority must now be brought to bear upon refining. Crude oil is essential to our economy; yet, it is basically useless until it can be refined into products. It is obvious that an adequate refining capacity is vital to our national security.

The U.S. operating capacity today is about 14 million barrels, which is a low operating capacity for the ability of the United States to respond to import disruptions or military mobilization. And we have already compromised our position in those crucial matters.

The Department of Energy, however, lists another 1.5 million barrels of so-called idle capacity. Many of these so-called operable or idle capacity refineries have been shut down for so long that they may have passed the point of ever restarting. To continue to believe that this idle capacity would be able to respond quickly to an emergency is simply folly.

Beginning in 1983, increasing gasoline imports triggered refinery shutdowns with a wave whose end we have not seen in sight. We have been closing down refineries in this country while refineries are being constructed halfway around the world in the most volatile places in the world.

Our government is taking specific measures against disruption of crude supply such as the strategic petroleum reserve. As we know, our taxpayers have invested $15 billion in that reserve, and it is a good investment; but unless we have refineries to refine it, it will be of no use. The only strategic reserve for gasoline are our refineries.

Mr. Chairman, it exceeds the bounds of common sense to renew and expand our dependence on unsecured foreign sources for a supply of gasoline.

We recently heard the administration testify that the new Middle East refineries pose no threat to U.S. industry. As proof, they said that the Middle East shipped almost no gasoline to the United States in 1984. I'm afraid they spoke too soon. The first quarter in 1985, Saudi Arabia had suddenly emerged as the third largest gasoline supplier in the United States. The U.S. industry cannot compete with foreign government subsidies and trade barriers which direct the world's excess supply of gasoline to this market. At current low tariffs, as Mr. Jandacek mentioned, Our nation is wide open for subsidized gasoline to replace domestic refineries. If imports continue to shut down refinery capacity, and this capacity moves down to 13 million barrels of capacity, we will be at the point of no return; we will be dependent then on supplies of imported products, primarily gasoline. And we must not forget what happened twice in the 1970's.

Mr. Chairman, immediate action is essential. The oil industry has been criticized in the past for not calling sufficient attention to the potential problems affecting the U.S. energy. In this case, all the evidence clearly points to a problem of national magnitude. We hope by bringing this to the attention of this subcommittee and other congressional committees that the situation can be remedied before it gets any worse.

Thank you.

Senator WALLOP. Thank you, Mr. McCowan.

Mr. Van Arsdall.

STATEMENT BY R. THOMAS VAN ARSDALL, VICE PRESIDENT, AGRICULTURAL INPUTS AND SERVICES, NATIONAL COUNCIL OF FARMER COOPERATIVES, WASHINGTON, DC

Mr. VAN ARSDALL. Thank you, Mr. Chairman, Senator Long.

The focus of our testimony today in about a subject for which this subcommittee may be uniquely qualified, given its dual responsibilities involving both energy and agriculture: the implications of petroleum product imports for the security of U.S. agriculture's fuel supplies in future emergencies, and indeed our national and economic security.

Petroleum product imports represent a new and immediate factor in the emergency-preparedness equation. The most compelling question is whether expansions of government-owned refineries in oil-producing countries will displace sufficient refining capacity here so that we will be unable to convert our own domestic crude production and SPR crude into vitally needed refined products for agriculture and the rest of the economy in the next emergency.

An important subset of this question is directly germane to agriculture. The cooperative petroleum system supplies about 40 percent of the farm market—refining and distribution. Cooperative refiners, as independents, are generally more vulnerable to subsidized product imports than are the majors, who for a time can offset refining losses with their crude oil earnings.

Now, in the co-op system we are sort of unique in the oil industry in that our customers are also our owners, and that carries with it a unique accountability in terms of commitment of supply, price and service. The short-term effects of cooperative refinery shutdowns would be devastating to agriculture, particularly in these difficult times, for American farmers. There are about $675 million in assets, just in plant and equipment, at risk. In the longer term, if increased product imports were to force farmer-owned cooperative refineries to shut down, then the traditional role of cooperative refiners as a principal source for the cooperative marketing and distribution system in rural areas would be replaced by dependence on imported products and a product spot market. These sources dry up during a shortage.

If cooperative petroleum marketers and in turn their farm members were to lose part or all of their fuel supplies at critical planting or harvest time in the next oil emergency, a fuel shortage could quickly degenerate into a food crisis of far greater magnitude.

The debate thus far on this issue seems to dwell far too much on whether product imports will or will not increase significantly. We believe that another question needs to be answered more satisfactorily first, before such debate can be constructive: What level of domestic refining capacity represents that national security threshhold? At a minimum, that point would logically seem to lie above an equilibrium between operational domestic refining capacity as compared with domestic crude oil production plus SPR drawdown capacity. Indeed, with all the numbers floating around, this threshhold may well have been reached already.

The potential stakes are so high that this question deserves the fullest investigation on an expedited basis by this subcommittee and other appropriate policy bodies in Government. And we commend this subcommittee for its timely hearing.

Our own analysis has been limited, at best. It raises as many new questions as answers, but what we have learned leaves us deeply concerned. Unfortunately, the administration seems to ducking the hard questions and hoping that by ignoring the problem it will disappear. In our view, this manner of behavior is unacceptable. Indeed, the National Council's board of directors was so concerned by this attitude that it unanimously adopted the resolution provided as enclosure 1 to our testimony. Once you get beyond all the whereases, you will find that the resolution essentially calls upon the U.S. Government to determine what that national security threshhold is and to develop an appropriate policy response which minimizes the adverse impacts on farm fuel prices and trade.

In closing, the National Council's member cooperatives are farmer owned. We have endured through two oil emergencies, with farm fuel shortages and sharply higher energy prices. We are not anxious to see mistakes of the past repeated needlessly in the next foreign oil cutoff.

Thank you.

[Mr. Van Arsdall's written testimony follows:]

National
Council of
Farmer
Cooperatives

Before the
Subcommittee on Energy and Agricultural Taxation
of the
Committee on Finance
U.S. Senate
Washington, D.C.

HEARING ON EFFECT OF TAX LAWS ON IMPLEMENTATION OF DOMESTIC ENERGY POLICY AND NATIONAL SECURITY

Statement of
R. Thomas Van Arsdall
Vice President, Agricultural Inputs and Services
National Council of Farmer Cooperatives

June 21, 1985

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Serving America's Family Farmers

Before the
Subcommittee on Energy and Agricultural Taxation
of the
Committee on Finance
U.S. Senate
Washington, D.C.

Hearing on Effect of Tax Laws on Implementation of Domestic Energy Policy and National Security

Mr. Chairman and Members of the Subcommittee, my name is R. Thomas Van Arsdall, and I am Vice President of Agricultural Inputs and Services with the National Council of Farmer Cooperatives. I commend the Subcommittee for holding this timely hearing, and am pleased to have the opportunity to share the National Council's views.

The focus of our testimony today involves consideration of an issue which is uniquely suited to this Subcommittee, given its dual energy and agricultural responsibilities--**the implications of imported petroleum products for the security of U.S. agriculture's fuel supplies in future emergencies, and indeed our national and economic security.**

INTEREST OF THE NATIONAL COUNCIL

The National Council of Farmer Cooperatives is an association of cooperative businesses which are owned and controlled by farmers. Our membership includes 107 major marketing and farm supply cooperatives, the 37 banks of the cooperative Farm Credit System, and 32 state councils of farmer cooperatives. The National Council represents about 90 percent of the 6,100 local farmer cooperatives in the nation, with a combined membership of nearly two million farmers.

The National Council has been heavily involved in national policy debate concerning energy emergency preparedness for the past 12 years, our commitmentto the development and maintenance of responsible emergency preparedness policies hinges upon a fundamental relationship which underlies agriculture's unique ties to its energy inputs. Simply stated, U.S. **agriculture must have uninterrupted access to equitably-priced supplies of petroleum fuels**, in order to assure dependable supplies of food and natural fiber for the nation and the world.

Timing is critical in agricultural operations, with needs subject to the dictates of biological processes and the vagaries of nature. Agriculture, as opposed to industrial operations, cannot make up for lost production at a later date. A disruption of even short duration at the wrong time can result in crop losses for an entire year. Yet agriculture is perhaps most vulnerable to disruptions, as it lies at the end of petroleum supply lines. Past disruptions have been felt first and most acutely in rural areas.

It is this **combination of need and vulnerability** that led **farmers**, through their cooperatives, to **invest in their own petroleum supply and distribution systems** over the past half century. Today, supply cooperatives own and operate five efficient refineries possessing an aggregate production capacity of 337,700 barrels per stream day. Farmer cooperatives market petroleum products in more than 40 states and supply about 40% of all on-farm fuel and a large portion of rural system needs.

The cooperative petroleum system represents the only segment of the oil industry in which the **consumers of its products are also**

its owners. This feature carries with it not only a **unique accountability** in terms of commitment of supply, service and price, but also a **unique institutional perspective and sensitivity**--borne of the painful experiences of two oil supply disruptions in the last decade--to this nation's energy security.

LESSONS FROM THE PAST

History has demonstrated that a relatively minor supply disruption can generate long gasoline lines, crisis-driven price increases and devastating macro-economic consequences. For example, during the Iranian disruption in 1979, there was no actual decrease in the U.S. level of crude oil imports. Yet inventory adjustments reflecting perceived shortages led to supply disruptions and a 180-percent increase in crude oil prices.

It is estimated that the adverse economic effects of the 1979 disruption alone resulted in oil price increases that forced farmers to pay as much as $5 billion more annually for their petroleum fuels through 1983. Even though prices declined last year, much of this legacy still remains.

SPR RESPONSE

The U.S. has responded to two damaging crude oil disruptions over the past decade by moving to fill the Strategic Petroleum Reserve (SPR) with more than 460 million barrels of crude oil to date. The National Council has been and continues to be an outspoken advocate of diligence in filling the SPR, and in developing policies for its timely and effective use.

The U.S. Department of Energy (DOE) has stated that, at current levels of petroleum imports, the SPR now has sufficient

crude oil inventory to offset a total cutoff of petroleum imports for more than 90 days. However, U.S. **consumers require petroleum products**--gasoline, diesel fuel, heating oil--not crude oil. To risk overstating the obvious, **refineries are necessary** to accomplish that conversion. Therefore, it would seem that the declaration by DOE carries with it a vital, implicit assumption that sufficient domestic refining capacity is available to convert the SPR crude oil into needed products accessible to end use markets on a timely basis during an emergency. That assumption may be valid today. However, will it still be valid tomorrow?

A NEW VULNERABILITY?

The National Council is growing increasingly concerned that the ability of this nation to deal with future energy emergencies could be diminished significantly as a result of **rising petroleum product imports.** An analysis of import data over the last four years demonstrates an accelerated growth in imports of both finished and unfinished petroleum products, particularly gasoline. The fact that new refineries are coming on stream in oil producing nations, with others under construction or planned, makes it likely that this trend will continue.

Increasing product imports may contribute to downward pressure on fuel prices in the short term. Any fuel cost savings, when examined in isolation, certainly represent welcome news to hard-pressed armers. However, closer assessment within a larger context identifies potential **short-run and long-run costs** to agriculture of much greater magnitude, particularly in a tight or disrupted market.

Product Imports Adversely Impact U.S. Refiners:

To the extent that product imports exacerbate the current depression in the domestic refining industry, farmer-owned cooperative refineries are also impacted. The refining sector, both U.S. and world-wide, has been going through an extremely difficult adjustment period, in which surplus capacity has been shut down in order to reach a new equilibrium of supply and demand.

A steadily growing volume of petroleum product imports has exacerbated this adjustment process for the U.S. refining sector. The strong U.S. dollar has combined with other key characteristics of the international oil market to effectively deny U.S. refiners access to product export markets, while making the U.S. the most lucrative market for petroleum products in the eyes of overseas refiners. Foreign governments have not hesitated to subsidize products from their "national" refineries in order to penetrate the U.S. market.

Implications for Co-op Petroleum System:

Major oil companies are able to offset refining losses for considerable periods through their earnings from crude oil production and other investments. Cooperative refiners by definition are crude deficient and generally do not have other earnings with which to weather such refining losses. The agricultural economy is going through its own severe economic crisis, and certainly has no reserves from other sources to offset refining losses.

The National Council would point out that farmer-owned cooperative refiners are not competitively disadvantaged because of technological obsolescence, inefficiency or low productivity.

These refineries have high yields of gasoline, diesel fuel and heating oil amounting to 85-90 percent of their refined products, and have invested millions of dollars to maintain efficient operations. Cooperative refiners on average are more efficient than the norm for major refiners, in both fuel efficiency and cash operating costs.

Regional cooperatives which have been hard hit in other areas can ill afford concurrent losses in their refining operations. In the extreme, this could mean a shutdown of one or more cooperative refineries. A total of $675 million in cooperative refinery assets (hardware only) is potentially at risk. The impact of a major write-off could be devastating for economically weakened cooperatives and their farmer-owners.

If the import trend continues and cooperative refineries are forced to shut down, then the traditional role of cooperative refiners as a principal source for the cooperative marketing and distribution system in rural areas would be replaced by dependence on **imported products and a volatile spot market. These sources dry up during a shortage.**

Major oil companies are not well positioned to fill the void, as they have continued to withdraw from rural America. Indeed, there is real question as to whether SPR crude oil could be refined and moved to all rural markets on a timely basis during an emergency, absent the cooperative refining system.

If cooperative petroleum marketers, and in turn their farmer-members, were to lose part or all of their fuel supplies in the next oil emergency, a fuel shortage could quickly degenerate into a food crisis of far greater magnitude.

WILL PRODUCT IMPORTS REDUCE SPR EFFECTIVENESS?

One critical question has emerged which goes far beyond the issue of the survival of the domestic refining industry, and which demands serious debate within the nation's energy policy community:

- **Will petroleum product imports displace sufficient domestic refining capacity to jeopardize the effectiveness of the SPR?**

The complex forces underlying increasing product imports are examined in detail by several other witnesses. Regardless of the causes, the National Council is concerned that should product imports continue to increase, the trend could lead to an over-dependence on imported products--creating a **new kind of vulnerability** that could again result in gasoline lines and disruption-driven price shocks in the next emergency.

Disruptions in the past have curtailed crude oil supplies. Supply disruptions of the future may also cut off finished petroleum products used in agriculture, transportation, home heating, industry and defense. The SPR could still be utilized effectively in response to either type of disruption, assuming that sufficient domestic refining capacity is available and positioned to serve all market segments.

THE ISSUE OF "FAIR" TRADE

If the economic survival of an American industry in the face of foreign competition were the only issue being debated, then one could argue--as some have-- that the problem should be addressed solely under trade remedies. Then the burden would be similar to that presently faced by a number of other U.S. industries: proving whether the root cause of the threat involves "unfair" trade practices by foreign competitors.

In the case of the refining industry, the particular problem would involve the use of dual pricing of crude oil by governments in producing nations as a natural resource subsidy for export products from their refineries. At stake would be jobs and the investment base of an important cog in our national economy--certainly no small consideration. As stated earlier, farmer cooperatives and their member-owners have a great deal at risk in this regard. And we are convinced that unfair trade practices by foreign governments have contributed materially to the skewed pricing structure which has led to increased petroleum product imports penetrating the U.S. market.

However, in the case of this nation's oil supply lines, the debate must transcend the traditional arguments regarding whether the practices of foreign competitors are "fair" or "unfair". In no other industry have we experienced two foreign embargoes which curtailed a resource so vital to our economic and national security. In no other industry has such action resulted in an 800-percent increase in prices, perpetuated by the presence of a cartel.

Should product imports reduce the ability of domestic refiners to convert domestic and SPR crude oil to needed products in the event of a future emergency, it will matter not why the displacement of domestic refining capacity occurred.

COMPELLING QUESTIONS DEMAND ANSWERS

Will petroleum product imports continue to increase? Available information certainly suggests that product imports will continue to increase. Consider the following. While U.S. refining capacity has decreased by 14% since 1982, OPEC and other Persian Gulf nations have been increasing capacity by 50%. There are 17 grassroots refineries planned or under construction (or just completed) in the world today. Only one of these is in an industrialized, or consuming, nation. All of the countries that are adding new refining capacity also have growing domestic crude oil production or spare production capacity. Three of four such refineries in Saudi Arabia alone have been designated as export refineries. The strong U.S. dollar and existing or potential trade barriers in Europe and Japan serve as strong indicators that most exports by these refineries will be targeted for the U.S. market.

Will petroleum product imports displace sufficient domestic refining capacity to jeopardize the strategic effectiveness of the SPR in the next emergency? The National Council believes that available data, while not providing all of the answers, certainly raise serious cause for concern. The potential stakes are so high that this question deserves the **fullest investigation on an expedited basis** by this Subcommittee and other appropriate policy bodies in government.

Unfortunately, the Administration seems to be hiding its head in the sand and hoping that by ignoring the problem it will disappear. In our view, this manner of behavior is unacceptable. Indeed, the National Council's Board of Directors, when addressing this issue in a meeting on June 11, 1985, was so concerned that it unanimously adopted the Resolution provided as Enclosure 1.

We must not let time dull our senses. Although not currently in the headlines, the national energy security threat is real and omnipresent. Experts generally agree that a supply disruption is likely to occur at sometime in the future. The only points still at issue are "When" and "How severe." Current increases in petroleum demand in consuming nations are projected to continue, with a tight market expected to return within a few years. Political instabilities in major oil producing nations have by no means diminished and are expected to continue as the norm. It is only a matter of time before OPEC will again have effective control of the incremental barrel.

The product import trend reminds us again that the world we live in is a dynamic and complex system with one ominous constant--**change.** Petroleum product imports represent the **new factor** in the emergency preparedness equation, which possesses the potential capability of disarming the SPR, and turning this imposing strategic weapon into the next Maginot Line.

Will the U.S. again turn a blind eye to emerging problems, reacting to a crisis only after the fact, typically with too much of the wrong solution? It would be a senseless tragedy if this nation were to turn to the SPR in a future emergency and find it to be rendered ineffective. This scenario could easily be realized if strategic planning remains static in the midst of a rapidly changing environment.

In closing, the National Council's member cooperatives are **farmer-owned.** We have endured through two oil emergencies, with farm fuel shortages and sharply higher prices. **We are not anxious to see mistakes of the past repeated needlessly in the next foreign oil cutoff.**

Enclosure 2 is a White Paper, entitled "Petroleum Product Imports: Implications for U.S. Agriculture," which the National Council offers to the Subcommittee for the record as a sort of "snapshot" of our analysis to date on this critical issue. Our investigation thus far has generated as many questions as answers. However, one consideration is increasingly coming into focus: If product imports continue to increase, displacing domestic refining capacity, a threshold will be crossed at some point which would place our nation under the threat of a new kind of vulnerability. At a minimum, that point would logically seem to lie above an equilibrium between operational domestic refining capacity as compared with domestic crude oil production, plus SPR drawdown capacity. Indeed, the threshold may well have been crossed.

The National Council stands ready to work with others in examining potential problems raised by product imports, and, if necessary, in exploring possible appropriate policy responses. We thank you for this opportunity to share our views, and would be pleased to respond to any questions that members of the Subcommittee may have.

ENCLOSURE 1

National
Council of
Farmer
Cooperatives

RESOLUTION OF
BOARD OF DIRECTORS
NATIONAL COUNCIL OF FARMER COOPERATIVES

9-85

IMPLICATIONS OF PETROLEUM PRODUCT IMPORTS FOR U.S. AGRICULTURE

WHEREAS, U.S. Agriculture must have uninterrupted access to equitably priced petroleum fuel supplies;

WHEREAS, since 1973 two oil disruptions have demonstrated that agriculture, at the end of petroleum supply lines, is most vulnerable to energy disruptions;

WHEREAS, crisis-driven price increases in excess of 800% have had devastating consequences for farmers and the U.S. economy;

WHEREAS, farmers have invested in their own cooperative petroleum system over the past 50 years in response to their needs and vulnerabilities;

WHEREAS, the cooperative system represents the only segment of the oil industry in which the consumers of its products are also its owners, meaning a unique accountability in terms of commitment of supply, service and price, and a unique institutional perspective and sensitivity to this nation's energy security;

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Serving America's Family Farmers

WHEREAS, a new kind of vulnerability threatens to emerge, as gasoline and middle distillate imports have increased more than three-fold within the last four years, and have approached 10% of domestic demand, with further increases predicted;

WHEREAS, subsidized product imports from state-owned refineries are displacing domestic refining capacity, and have the potential to jeopardize the Strategic Petroleum Reserve's (SPR) effectiveness;

WHEREAS, rising product imports disproportionately impact upon cooperative refineries, jeopardizing $675 million in assets at a time when the agricultural economy is going through a severe economic crisis;

WHEREAS, loss of these refineries would force the cooperative distribution system to be dependent on imported products and a volatile spot market--sources which dry up during a disruption;

WHEREAS, the National Council of Farmer Cooperatives is a leading and respected voice in national energy emergency preparedness policy debate;

THEREFORE, be it resolved that the Board of Directors of the National Council of Farmer Cooperatives is deeply concerned about the implications of these trends for U.S. agriculture, and urges the U.S. Government:

- To determine on an expedited basis the level of operating domestic refining capacity necessary to meet national and economic security objectives, including the needs of American agriculture; and

- To develop an appropriate policy response designed to achieve the above objectives, while incorporating the following attributes to the maximum extent practicable--
  - minimum adverse farm fuel price impacts; and
  - minimum likelihood of trade retaliation.

National
Council of
Farmer
Cooperatives

ENCLOSURE 2

PETROLEUM PRODUCT IMPORTS:
Implications for U.S. Agriculture

May 1985

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Serving America's Family Farmers

Growing U.S. dependence on foreign petroleum products could add an ominous new dimension to the continuing threat of petroleum supply disruptions.

If this trend continues unabated, the next emergency is likely to involve a cut-off not only of crude oil but also of petroleum products. Remaining domestic refining capacity at that time may be inadequate to convert SPR crude oil into needed products.

The consequences for agriculture and the nation would be devastating.

PETROLEUM PRODUCT IMPORTS:
Implications for U.S. Agriculture

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PETROLEUM PRODUCT IMPORTS
Implications for U.S. Agriculture

EXECUTIVE SUMMARY

Farmer cooperatives' heavy involvement in energy emergency preparedness policy debate over the past 12 years hinges upon the fact that U.S. **agriculture must have uninterrupted access to equitably-priced petroleum fuel supplies.** Yet **agriculture** is perhaps most **vulnerable** to energy supply disruptions.

It is this combination of need and vulnerability that led **farmers** to invest in **their own cooperative petroleum system** over the past 50 years. The cooperative system represents the only segment of the oil industry in which the consumers of its products are also its owners. This feature carries with it not only a **unique accountability** in terms of commitment of supply, service and price, but also **a unique institutional perspective and sensitivity to this nation's energy security.**

History has demonstrated that even a relatively minor petroleum disruption can generate long gasoline lines, crisis-driven price increases and devastating macroeconomic consequences. Farmers were forced to pay as much as $5 billion more annually for their petroleum fuels from 1979 through 1983 as a result of the Iranian disruption alone.

Imports of gasoline and middle distillates have increased more than three-fold within the last four years, and have approached 10 percent of domestic demand. Substantial evidence exists that this trend may continue. **A new kind of vulnerability** threatens to emerge, with potentially grave national security implications.

- Increasing petroleum product imports could displace sufficient domestic refining capacity to **jeopardize the Strategic Petroleum Reserve's (SPR) effectiveness.**
  - Remaining domestic refining capacity at some point would be insufficient to refine domestic production plus SPR drawdown in the event of another disruption.
  - Supply disruptions in the past cut off crude oil. The next disruption could curtail finished fuels.
  - Farmers and other U.S. **consumers require petroleum products**, not crude oil. **Refineries are necessary** to accomplish that conversion.

EXECUTIVE SUMMARY (continued)

- Rising product imports exacerbate the current depression in the domestic refining industry.
  - Cooperative refineries are disproportionately impacted, as they generally do not have offsetting crude oil earnings. Additionally, the agricultural economy is going through its own severe economic crisis. A total of $675 million in cooperative refinery assets is potentially at risk.
  - If cooperative refineries are forced to shut down, then their traditional role as the principal supply source for the cooperative distribution system would be replaced by dependence on imported products and a volatile spot market. These sources dry up quickly during a disruption, and a fuel shortage could quickly degenerate into a food crisis.
- Available information suggests that product imports will indeed continue to increase:
  - Arab OPEC nations have already added or are in the process of adding four new refineries with a combined capacity in excess of 1,000,000 barrels per day.
  - Most exports by these refineries will be targeted for the U.S. market.
  - Almost half of all refining capacity, outside of Communist countries and the U.S., is now state-owned and controlled. Products from these refineries are often subsidized.

The potential stakes are so high that petroleum product import trends, and their implications for U.S. agriculture and for national energy security, deserve the fullest investigation on an expedited basis.

May, 1985
NCFC

PETROLEUM PRODUCT IMPORTS:
Implications for U.S. Agriculture[1]

FUEL ACCESS CRITICAL TO U.S. AGRICULTURE

One fundamental premise underlies agriculture's unique ties to its energy inputs:

> **U.S. agriculture must have uninterrupted access to equitably priced supplies of petroleum fuels, in order to assure dependable supplies of food and natural fiber for the nation and the world.**

Agriculture lies at the end of petroleum supply lines. Past disruptions have been felt first and most acutely in rural areas.

Timing is critical. While the energy needs of agriculture are seasonal and variable, they are specific and essential. Agriculture, as opposed to industrial operations, cannot make up for lost production at a later date. A disruption of even a short duration can result in crop losses for an entire year.

It is this combination of need and vulnerability that led farmers to invest in their own petroleum supply and distribution systems over the last 50 years.

Today, supply cooperatives own and operate five efficient refineries possessing an aggregate production capacity of 337,700 barrels per stream day. Farmer cooperatives market petroleum products in more than 40 states and currently supply about 45% of all on-farm fuel and a large portion of rural needs.

The cooperative petroleum system represents the only segment **of the oil industry in which the consumers of its products are also its owners.** This feature carries with it not only a unique **accountability** in terms of commitment of supply, service and price, but also **a unique institutional perspective and sensitivity--borne of the painful experiences of two oil supply disruptions in the past decade--to this nation's energy security.**

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[1] The National Council of Farmer Cooperatives is an association of cooperative businesses which are owned and controlled by farmers. Its membership is comprised of 107 major marketing and farm supply cooperatives, the 37 banks of the cooperative Farm Credit System and 32 state councils of farmer cooperatives. The National Council represents about 90% of the more than 6,100 farmer cooperatives in the nation, with a combined membership of nearly two million farmers. The National Council has been heavily involved in national policy debate concerning energy emergency preparedness for the past 12 years.

CONTINUED THREAT OF DISRUPTIONS

History has demonstrated that a relatively minor supply disruption can generate long gasoline lines, crisis-driven price increases and devastating macroeconomic consequences. For example, during the Iranian disruption in 1979, there was no actual decrease in the U.S. level of crude oil imports. Yet inventory adjustments reflecting perceived shortages led to supply disruptions and a 180-percent increase in crude oil prices.

It is estimated that the adverse economic effects of the 1979 disruption alone resulted in oil price increases that forced farmers to pay as much as $5 billion more annually for their petroleum fuels through 1983. Even though prices have declined recently, much of this legacy still remains.

The national security threat is real! Experts generally agree that a supply disruption is likely to occur at some time in the future. The more compelling questions have been "When?" and "How Severe?".

- Current increases in petroleum demand in consuming nations are projected to continue.
- A tight market is eventually expected to return, with demand and supply in close balance.
- Political instabilities in major producing countries are expected to continue as the norm.
- OPEC will again have effective control of the incremental barrel.

SPR RESPONSE

The U.S. has acted to avoid a repeat of damages wrought by two crude oil disruptions over the past decade by filling the Strategic Petroleum Reserve (SPR) with more that 460 million barrels of crude oil to date. The SPR is intended to be the first and major line of defense against the next disruption.

The U.S. Department of Energy (DOE) has stated that, at current levels of petroleum imports, the SPR now has sufficient crude oil inventories to offset a total cutoff of petroleum imports for more than 90 days. This statement may have been correct from a strict volumetric consideration, but doubts arise when one looks at recent import volumes and the anticipated SPR drawdown capacity.

- According to DOE, 1984 petroleum imports averaged 5.184 million barrels per day (MMBPD), excluding SPR imports. Of that total, 3.206 MMBPD were crude oil imports and 1.979 MMBPD were product imports.

- Although the SPR drawdown capacity is currently rated at approximately 2.3 MMBPD, it scheduled to go to 4.5 MMBPD.

Further, it must be recognized that U.S. consumers require **petroleum products**--gasoline, diesel fuel, heating oil--not crude oil. To risk overstating the obvious, **refineries are necessary to accomplish that conversion.**

Therefore, it would seem that the statement by DOE carries with it a vital, implicit assumption that sufficient domestic refining capacity is available to convert the SPR crude oil into needed products accessible to end use markets on a timely basis during an emergency.

PETROLEUM PRODUCT IMPORTS MAY THREATEN NATIONAL SECURITY

Two new questions are emerging which demand serious debate within the nation's policy community:

- **Are product import trends such that future disruptions will involve refined products?**

- **Will sufficient domestic refining capacity be available to utilize the nation's SPR in such an event?**

The ability of the nation to deal with future energy emergencies could be diminished significantly as a result of rising petroleum product imports. Should this lead to an over-dependence on imported products, grave national security implications may arise in the form of **a new kind of vulnerability** that could again result in gasoline lines and disruption-driven price shocks in the next emergency.

- Barring a change in petroleum product import trends, the next foreign supply disruption **could easily curtail** a significant portion of the nation's **finished fuels** used in agriculture, transportation, home heating, industry, and defense.

- Supply disruptions in the **past cut off crude oil**, with resultant gasoline lines and devastating macroeconomic consequences. Absent a sharp reduction in the rate of growth in petroleum product imports, supply disruptions of the **future will also cut off finished products.**

- The SPR can be used effectively in response to either type of disruption, **assuming that sufficient domestic refining capacity is available and positioned to serve all market segments.**

- To the extent that U.S. refining capacity is displaced by product imports, **remaining capacity will eventually be insufficient** to meet vital domestic energy needs in the event of another supply disruption.

    - It is extremely expensive to "mothball" refineries Most surplus refining capacity will likely be scrapped.

    - Remaining idle capacity would be difficult or impossible to reactivate on a timely basis during an emergency. Time is required not only to reactivate refining equipment but also to train operating personnel and develop working inventories of crude oil and products.

    - It takes years, not months, to construct new refining capacity and bring it onstream. Environmental obstacles make it almost impossible to gain approval of a new "grassroots" refinery.

- The maintenance of a competitive and technologically advanced domestic refining industry is vital to insuring the availability of petroleum product supplies in an emergency, if the effectiveness of the SPR in responding to shortages is to be maintained.

PRODUCT IMPORTS DISPLACE U.S. REFINING CAPACITY

The U.S. refining sector, already buffeted by thin or negative margins, is now faced with a steadily growing volume of petroleum product imports (see "TREND ANALYSIS IN IMPORT DATA," Enclosure 1). This trend derives from a series of complex factors:

WORLD MARKET FACTORS

- **Surplus Conditions**--A world-wide refining capacity surplus, coupled with the current crude oil glut and the inability of the OPEC cartel to adjust production to reflect existing world market requirements, has flooded the market with petroleum products.

- **Strong Dollar Makes U.S. Most Lucrative Market**--The federal deficit, high interest rates, and U.S economic strength have created such a strong, over-valued dollar that U.S refiners, as well as other exporters, are excluded from world markets. Conversely, a strong U.S. dollar has helped to make the U.S. market increasingly attractive to imports, including fertilizer, automobiles, steel, textiles, leather goods--and most recently, petroleum products.

- **Gasoline is a By-product Overseas**--Many overseas refineries are designed to yield heavier fuel oil products for local markets and therefore need to export surplus gasoline to the U.S. at whatever price will assure a market.

- **Import Barriers in Other Consuming Nations**--Some other consuming nations (most notably Japan) have moved to erect barriers against petroleum product imports, largely for national security reasons. Surplus petroleum products thus tend to be focused on the U.S. market where trade barriers are essentially non-existent.

OPEC FACTORS

- **Quota Subversion Device**--Since OPEC countries are constrained by official crude oil quotas and prices, they also use product exports as a means of subverting the production quota system to increase exports and generate much needed dollars.

- **Dual Crude Pricing**--Products from new export refineries in producing countries are being sold in the global spot market at prices that net back crude values well below cartel-set, official sale prices in those same countries. In other words, these government-owned refineries are internally subsidized in order to discount cartel-set prices and penetrate markets.

- **Major Increase in Arab OPEC Refining Capacity**--Arab OPEC nations have already added or are in the process of adding four new refineries with a combined capacity in excess of 1,000,000 barrels per day. These Arab States are thus increasing capacity by about 50% at the same time that U.S. domestic refining capacity has undergone a major contraction. (See Enclosures 2 and 3 for further discussion of "COMPARATIVE REFINING CAPACITIES" and "POTENTIAL EFFECT OF NEW OPEC EXPORT REFINERIES ON THE REFINING INDUSTRY IN THE UNITED STATES")

U.S. REFINING FACTORS

- **Costs of Regulation**--U.S. refiners cannot match the low raw material, energy, and regulatory compliance costs of their foreign competitors; nor do they receive government subsidies which accrue to many large overseas refiners. Furthermore, flagrant abuses in the present U.S. tariff system involving petroleum products have resulted in an influx of imported products which violate the very EPA standards that are enforced so rigorously upon domestic refineries.

- **U.S. Refining Efficiency**--U.S. refiners are NOT competitively disadvantaged because of technological obsolescence, inefficiency or low productivity. In fact, the U.S. industry is the world leader in these areas and has invested billions of dollars to maintain its lead.

COOPERATIVE REFINING FACTORS

- **Cooperative Refineries Efficient**--Farmer-owned cooperative refineries have yields of gasoline, diesel fuel and heating oil amounting to approximately 85 to 90% of their refined products.

- **Cooperative Refineries are Quite Efficient Relative to Major Refineries:**

    - At optimum utilization rates, average cooperative refinery cash operating costs were $0.87 per barrel lower than the average for major refineries in 1983.

    - In 1983, the average cooperative refinery was 25% more fuel efficient than the average major refinery.

- **Disproportionate Impact on Cooperative Refiners**--Major oil companies are able to offset refining losses for considerable periods through their earnings from crude oil production and other investments. Cooperatives and other independent refiners are by definition crude deficient and generally do not have crude production earnings with which to weather such refining losses. The cooperative system certainly has no reserves from other sources, as the agricultural economy is going through its own economic crisis.

ECONOMIC HARDSHIP FOR THE AGRICULTURAL COMMUNITY

Increasing product imports may contribute to downward pressure on fuel prices in the short term. Any fuel cost savings, when examined in isolation, certainly represent welcome news to hard-pressed farmers. However, closer assessment within a larger context identifies potential **short-run and long-run costs** to agriculture of much greater magnitude:

A PROBLEM, NOT A SOLUTION

- A continuing decline in the U.S. refining industry would tend to reduce competition and would lead ultimately to increased import prices. **The displacement of U.S. refining capacity by imports is not a solution; rather it is a serious problem.**

- The U.S. seeks a market-oriented system, which, by its very nature, must rest on competition. **Foreign export refiners seek to eliminate competition.**

- The margin squeeze on the domestic refining industry also translates into operating losses for farmer-owned cooperative refiners. **Regional cooperatives which have been hard hit in other areas can ill afford concurrent losses in their refining operations.**

- If product imports in fact exacerbate already depressed conditions, it could mean a **shutdown** of one or more cooperative refineries. Economically weakened cooperatives may be unable to survive the write-off of these investments. **A total of $675 million in cooperative refinery assets (hardware only) is potentially at risk.**

RURAL DISTRIBUTION IN JEOPARDY

- Farmers could face **excessively high fuel prices**, and indeed, a **possible loss of fuel during critical operations.**

- **In agriculture, a fuel disruption of even short duration at the wrong time can result in crop losses or sharply reduced yields for that entire year.** Even a modest petroleum disruption under the conditions just described could quickly turn into a food crisis of far greater magnitude. [For a further discussion of the adverse impact on agriculture of a fuel supply disruption, see Enclosure 4, "U.S. AGRICULTURE AND THE RURAL PETROLEUM SYSTEM."]

- Over the longer term, the traditional role of cooperative and other U.S. independent refiners as the main supply source for cooperative and independent marketers in rural areas could be increasingly replaced by imported products and a volatile spot market. These sources dry up during a shortage. Major oil companies are not well positioned to fill the void, as they have continued to withdraw from rural America.

- The SPR could not be used to displace lost supplies, particularly in rural areas, if sufficient domestic refining capacity is not available, or properly located, to process the crude into needed products and move those products to market on a timely basis.

- Thus, should increased product imports displace domestic refining capacity, farm operators and rural communities would be far more likely to endure serious shortages during the next petroleum emergency.

COMPELLING QUESTIONS REQUIRE ANSWERS

Will petroleum product imports displace sufficient domestic refining capacity to jeopardize the strategic effectiveness of the SPR? That is the most compelling question raised by this White Paper.

- The brief analysis of import trend data and underlying factors reminds us again that the world we live in is a dynamic and complex system with one ominous constant--change.

- Petroleum product imports represent the new factors in the emergency preparedness equation, which possess the potential capability of disarming the SPR, and turning this imposing strategic weapon into the next Maginot Line.

- The National Council believes that available data raise serious cause for concern. The potential stakes are so high that this question deserves the fullest investigation on an expedited basis at the highest policy levels of government.

Will the U.S. again turn a blind eye to emerging problems, reacting to a crisis only after the fact, typically with too much of the wrong solution?

- It would be a **senseless tragedy** if this nation were to turn to the SPR in a future emergency and find the SPR **to be ineffective.** This scenario could easily occur if strategic planning remains static in the midst of a rapidly changing environment.

What would be the impact on agriculture?

- If the trend toward U.S. dependence on imported products continues unabated, the next emergency is likely to involve a cut-off not only of crude oil but also of petroleum products. **The consequences for agriculture and the nation would be devastating.**

- **U.S. agriculture must have uninterrupted access to equitably priced supplies of petroleum fuels, in order to assure dependable supplies of food and natural fiber for the nation and the world.**

- **Agriculture lies at the end of petroleum supply lines and would be the first to suffer in the event of a disruption.**

The National Council's member cooperatives are farmer-owned. We have lived through two oil emergencies, with farm fuel shortages and sharply higher prices. We are not anxious to see **mistakes of the past repeated needlessly** in the next foreign oil cut-off. We stand ready to work with others in examining potential problems raised by product imports and, if necessary, in exploring possible appropriate policy responses.

May 1985
NCFC

ENCLOSURE 1

TREND ANALYSIS IN IMPORT DATA

A detailed analysis of DOE import data over the last four years demonstrates an accelerated growth in imports of both finished and unfinished petroleum products.

- **Growth in Gasoline Imports**--As illustrated in Tables 1 and 2 below, total imports of finished gasoline, blending stocks and unfinished oils increased by a factor of 231% from 1981 to 1984. These same total "gasoline" imports represent an increase from 4.5% of U.S. gasoline supplied in 1981 (6,588 MBPD) to 10.3% in 1984 (6,698 MBPD).

Table 1[2]

Imports of Gasoline and Gasoline Components
1981-1984
in
Thousand Barrels per Day

Year	Finished Gasoline	Blending Stocks	Unfinished Oils	Total
1981	150	22	126	298
1982	186	39	203	428
1983	249	35	268	552
1984	291	79	319	689

Table 2

1984 Imports of Gasoline and Gasoline Components
as a Percentage of
1981 Imports of Gasoline and Gasoline Components
(Based on Table 1 above)

	Finished Gasoline	Blending Stocks	Unfinished Oils	Total
1984/ 1981	194%	359%	253%	231%

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[1] The trends may be understated, as DOE-reported imports are as much as 25 percent less than volumes reported by the U.S. Customs Service.

[2] Petroleum Supply Annual, & Petroleum Supply Monthly, (1981-4), Energy Information Administration, Department of Energy. Unfinished oils include naphtha, special naphtha, and other oils.

- **Middle Distillates**--Table 3 illustrates that imports of middle distillates (e.g., diesel fuel, home heating oil) are rising at a dramatic rate. Although absolute levels are not yet significant, the trend bears watching.

Table 3[3]

Imports of Middle Distillates
in
Thousand Barrels Per Day

Year	**Total**
1981	173
1982	93
1983	174
1984	270

- **Tariff Differentials and Abuses**--Anomalies in the current tariff schedule have apparently facilitated much of the surge in product imports.
    - Much of the naphtha and sub-specification gasoline being imported is entered directly, or indirectly, into the gasoline market to compete head-to-head with domestically refined product and imported gasoline which has incurred the full finished product tariff.
    - Yet, these "unfinished" products enter the country incurring less than 20% of the tariff assessed on finished product as demonstrated in Table 4.
    - While the International Trade Commission (ITC) and other jurisdictional policy bodies are currently investigating these developments, there is no assurance at present that effective corrective actions will be forthcoming.

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[3] Ibid at Footnote 2

Table 4

Import Duties on Selected Petroleum and Petroleum Products

Product	Tariff in Cents per Barrel
Crude Oil and	
Distillate & Residual Fuels:	
under 25° A.P.I.	5.25
25° A.P.I. or more	10.50
Motor Fuels: Finished Gasoline, Diesel & Jet Fuel	52.50
Naphtha & Unfinished Oils	10.50
Ethanol	2,520.00

- **CBI Ethanol Loophole**--Importers are utilizing a loophole presented by the Caribbean Basin Initiative (CBI) to avoid the present tariff on anhydrous fuel ethanol.
  - Alcohol from Brazil and Spain is being shipped to Caribbean sites for "manufacture" or "processing" --actually a drying process--in order to qualify for special tariff exemption treatment under the Caribbean Basin Initiative Program.
  - Since this additional processing occurs in the Caribbean, the normal ethanol tariff of $0.60 per gallon ($25.20 per barrel) is avoided, thereby frustrating the original intent of the tariff which was designed to offset the tax credit of $0.60 per gallon received upon sale.
  - This serves to drive down the value of domestic gasoline and alcohol fuels, further exacerbating depressed industry conditions.
- **Import Violations**--The available data mask even more serious abusive practices.
  - Evidence strongly suggests that cargoes are being miscertified to qualify for lower tariff classification (e.g., gasoline registered as naphtha).

- Evidence also suggests that importers are miscertifying lead levels of incoming "gasoline" cargoes. Such miscertification enables importers to abuse the lead rights trading program and to violate U.S. laws by selling leaded gasoline exceeding EPA lead limits or by representing leaded gasoline as unleaded product.

- Gasohol imports, which bear gasoline duties of 1.25 cents per gallon are also reportedly being miscertified. In some instances, importers have understated ethanol content to avoid the much higher ethanol tariff. One cargo was found to contain thrity percent ethanol, or 3 times the EPA limit of 10%.

ENCLOSURE 2

COMPARATIVE REFINING CAPACITIES, U.S. vs. OPEC

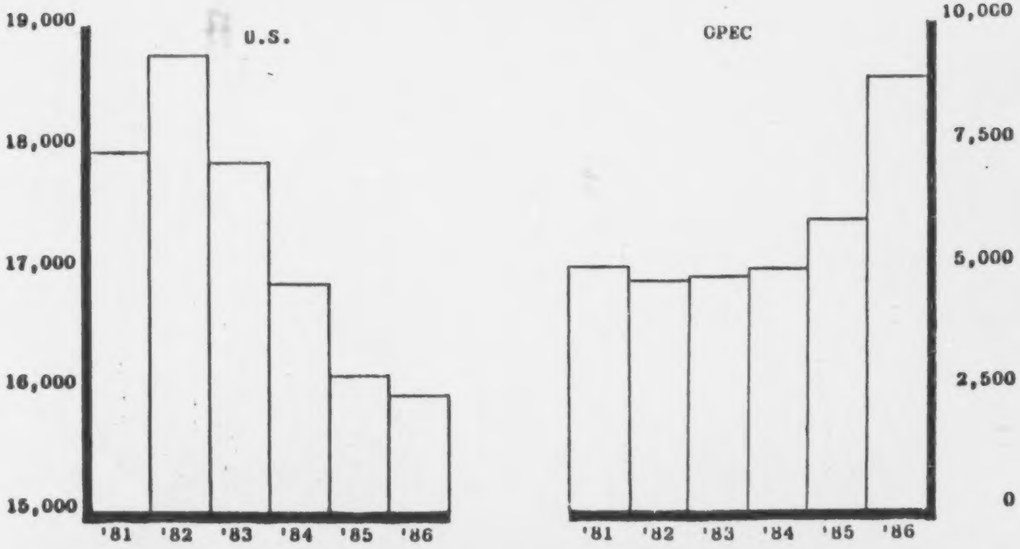
The U.S. refining industry is undergoing a major contraction. From 1981 through 1983, 2 million barrels per day (BPD) of capacity were shut down permanently, with an additional 1 million BPD idled. Capacity in excess of 1 million BPD was shut down during 1984. An additional 1 million BPD could close down in the near future. Yet, in spite of a contraction in existing capacity in the U.S. and other consuming regions, offshore refining capacity is expanding in oil producing regions.

- While U.S. refining capacity has decreased by 14% since 1982, OPEC countries have been increasing capacity by 50% over the same period. See "COMPARATIVE REFINING CAPACITIES, United States vs. OPEC." on the following page.
- Almost half of the world's refineries, outside of the U. S. and Communist countries, are now government-owned and controlled. Products from these refineries are typically subsidized internally as necessary to discount cartel-set prices or to penetrate markets.
- There are 17 grass roots refineries planned and under construction--or just completed--in the world today; only one of these is in an industrialized nation (Canada). Saudi Arabia has 4 of the 17 plants, and 3 of those are designated as export refineries and are designed to produce petroleum products for the U.S. market.
- All of the countries that are adding new refining capacity also have growing domestic crude oil production or spare production capacity.
- A combination of factors mentioned earlier, most notably the strong U.S. dollar and existing or potential trade barriers in Europe and Japan, strongly suggests that most exports by these refineries will be targeted for the U.S. market.

ENCLOSURE 2

COMPARATIVE REFINING CAPACITIES

United States[1] vs. OPEC[2] [3]
(Thousands of barrels per calendar day)



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[1] Source, U.S. capacities: Refinery Trends in Capacity and Utilization, Department of Energy, 1984.

[2] Source, OPEC capacities: 1981-1985, Oil & Gas Journal, Annual Worldwide Reports; 1986, Washington Bulletin, National Petroleum Refiners Association, October 12, 1984.

[3] In this case, OPEC includes the 13 OPEC members plus two non-OPEC members: Bahrain and Oman. The drop in capacity from 1981 to 1982 reflects the reduction in operable Iranian capacity.

ENCLOSURE 3

POTENTIAL EFFECT OF NEW OPEC EXPORT REFINERIES ON THE REFINING INDUSTRY IN THE UNITED STATES

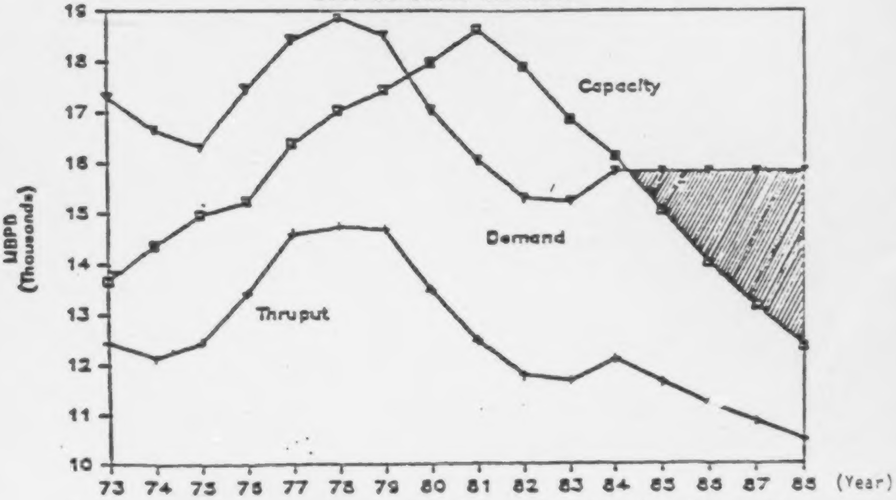
New, government-controlled export refineries coming on stream in the next few years in various OPEC countries will displace other refining capacity throughout the world. Some production from the first refineries to start up has already entered the United States, even though other market destinations would be more logical when assessed from a transportation cost perspective alone.

Significant national security considerations arise when examining the graph below, which demonstrates the potential impact on U.S. refining of new OPEC refineries. The shaded area represents the shortfall of domestic refining capacity as compared with domestic demand for refined products.

By 1988, even if remaining domestic capacity were operated at the maximum sustainable rate, it would be able to accommodate only U.S. crude oil production, plus 2.5 million barrels per day (bpd) of Strategic Petroleum Reserve (SPR) drawdown. The ultimate deliverability of the SPR will be 4 million bpd. U.S. refining capacity would be able to supply only 13.1 million bpd of the 15.8 million bpd demand forecast in this scenario. During a serious petroleum supply shortfall, reduction in demand or some other source of supply would have to make up the remaining 2.5 million bpd shortfall.

Crude oil shortages of considerably smaller magnitude than this hypothetical product shortfall have exacted heavy economic penalties in the last two disruptions.

IMPACT OF OPEC IMPORTS ON
U.S. REFINING CAPACITY



Source: Graph prepared by Texas City Refining using data from Throughput Capacity through 1984: DOE; OPEC Refining Capacities: Hydrocarbon Processing Construction Boxscore.

ENCLOSURE 4

U.S. AGRICULTURE AND THE RURAL PETROLEUM SYSTEM[1]

FOSSIL FUELS KEY TO AGRICULTURE'S SUCCESS:

Agriculture is the backbone of the U.S. economy. Not only does the agricultural community provide the food and fiber essential to the health and economic prosperity of the United States; but, in a very real sense, it feeds much of the rest of the world as well.

Perhaps no element of our economy fulfills such a crucial, global responsibility. If agriculture in this country were, for some reason, unable to meet that responsibility efficiently, the effects would be felt all too swiftly on a worldwide scale. About 2.5 million farm families produce enough food and natural fiber to feed and clothe 235 million Americans. These same farm families also export enough agricultural products to offset more than half of our annual bill for oil imports.

The high level of U.S. agricultural productivity, taken for granted by many, depends heavily on critical petroleum fuel inputs to facilitate the conversion of energy from the sun into food and natural fiber. By adopting technologies based heavily on fossil fuels, farmers have doubled output levels since 1940, without using more cropland. Labor productivity has increased more than ten-fold during that time, with one farmer now producing enough to feed himself and 79 others.

Given the vagaries of nature and the perishable characteristics of agricultural products, timing is critical to operations. Farmers and other components of the food and natural fiber system must have fuel in sufficient quantities and at the appropriate time and place to ensure full food and natural fiber production.

DISRUPTION IMPACTS ON AGRICULTURE -- AVAILABILITY AND PRICE:

A petroleum disruption can quickly generate serious adverse impacts on U.S. agriculture in two ways--availability and price.

Shortages of fuel are of the most immediate and overriding concern, as even a disruption of short duration at the wrong time can result in crop losses or sharply reduced yields for that entire year.

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[1] This white paper was prepared under the auspices of the National Council of Farmer Cooperatives, to offer a brief perspective on how energy supply disruptions impact upon the delicate relationships between agriculture and its rural petroleum distribution network. Revised May 1985.

One USDA analysis estimated that a 10-percent shortage at the farm could lead to a 55-percent increase in farm commodity prices.[2] Fuel shortages similarly affect processing and distribution operations, and can cause spoilage losses and prevent food from ultimately reaching the consumer.

Sharp rises in energy costs resulting from a disruption are also cause for concern. For example, each 10-percent increase in energy costs across the food system can raise food prices 1.2 percent, if fully passed through.[3]

In the short-term, however, the farmer as a "price taker" in a truly competitive marketplace must absorb such cost increases (Beyond the farm gate, costs can be more readily passed on).

Unfortunately, disruption-driven price increases generally tend to become a permanent fixture. American agriculture and the economy are still paying a heavy price generated by the 1979 disruption.

To place the economic effects of the last disruption in perspective, it is estimated that the resultant oil price increase meant that farmers spent as much as $5 billion more annually for their petroleum fuels through 1983. Contrast this increased input cost alone with depressed net farm income levels in the range of $16-31 billion annually during that period. As natural gas moves toward decontrol, this critical fuel and feedstock will also increasingly reflect jumps in oil prices.

Agriculture can ill afford any disruption-driven additions to this continuing legacy, especially in light of the grim prognosis for farm income over the next several years.

The American consumer ultimately bears disruption-related costs as they impact upon agriculture--be the problem availability or price--in the form of higher food prices. This is no small matter, as food is a basic and essential commodity which accounts for about 17 percent of total consumer expenditures, with the share rising to 40 percent for low income groups.

ROLE OF THE FARMER COOPERATIVE PETROLEUM SYSTEM:

Among the farmer cooperatives the National Council represents are supply cooperatives which own and operate five efficient refineries possessing an aggregate production capacity of 337,700 barrels per stream day, and whose yields of gasoline, diesel fuel and heating oil amount to approximately 85 - 90 percent of their refined products.

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[2] "Constrained Input-Output Simulations of Energy Restrictions in the Food and Fiber System," J. B. Penn and George D. Irwin, USDA AER Report No. 280, February 1977.

[3] For a food system analysis, see "Energy Policies: Price Impacts on the U.S. Food System," USDA/ESCS, 1979.

While this represents only about two percent of United States refining capacity, cooperatives market petroleum products in more than 40 states and currently supply about 40 percent of all on-farm fuel and a large portion of rural needs.

About three-fourths of the petroleum products sold by farmer cooperatives go to farmers, with the remaining volumes sold to other rural customers. This distribution network for petroleum products is unique and irreplaceable.[4]

Farmer cooperative responsibilities have steadily increased, in large part due to partial and total market withdrawals in rural areas by major oil companies. The economic forces causing the withdrawal of these companies from rural markets are understandable. However, the responsibility of serving not only farmers but rural communities which support farming fall more heavily on cooperatives and other independent refiners. In 1979, more than 900 communities were supplied solely by farmer cooperatives, with the total growing each year.

Farmer cooperative petroleum operations represent the only segment of the oil industry in which the consumers of its products are also its owners. This feature carries with it a unique accountability in terms of commitment of supply, service and price.

AGRICULTURAL VULNERABILITY TO PETROLEUM DISRUPTIONS:

The rural petroleum system's ability to meet agricultural needs is heavily dependent upon the ability of farmer-owned and other independent refiners serving rural markets to obtain adequate supplies of crude oil at competitive prices.

The past decade has provided ample evidence that energy supply life lines to farm and rural communities are particularly sensitive to disruptions. In particular, the Arab Oil Embargo in 1973 and the Iranian shutoff in the spring of 1979 both placed great stress on fuel supply lines to rural areas, with many farmers experiencing difficulty in getting sufficient fuel for critical operations.

These crude oil disruptions generally impact first and hardest upon farmer cooperative and other independent refiners, whether generated by absolute shortfalls in supply or such high prices that the crude oil is unavailable as a practical matter. For example, as a consequence of the Iranian disruption in early 1979, cooperative refiners lost a significant portion of their crude oil supplies and were forced to run at 50 percent of capacity (compared to an industry average of 85 percent). Further, crude oil acquired by farmer cooperatives was priced well above the national average.

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[4] A thorough description of this system is contained in Petroleum Cooperatives, 1982, by E. Eldon Eversull and John R. Dunn, USDA, ACS Research Report No. 46, May 1985.

The resulting market impacts were predictable. Other refiners were not positioned to serve the rural distribution system. Even those who could have were committed to their own markets and busily rebuilding their inventories in anticipation of increasing shortages. As a result, rural areas experienced serious diesel fuel shortages during the spring planting season and winter wheat harvest, and farmers bore a disproportionate share of OPEC-driven price increases.

When fuel shortages first emerged in the spring of 1979, DOE officials initially responded to requests for assistance with a cavalier "agriculture will just have to muddle through." Only when the problem magnified to a potential agricultural disaster did a belated action emerge in the form of Special Rule No. 9, providing an agricultural priority for diesel fuel allocation. While this measure helped somewhat, there were simply insufficient supplies in the rural distribution network to make up for the losses occasioned by regional crude oil shortages.

Emergency crude oil allocations did ultimately move crude oil supplies to cooperative refineries. Unfortunately, this action did not occur for several months--well after spring planting. Had regional shortages been brought into balance early on at the crude oil end, reimposition of product allocation likely would have been avoided--and the panic-induced price spiral minimized.

Agriculture indeed was fortunate to "muddle through" somehow during past crises. Effective and timely distribution of crude oil from the Strategic Petroleum Reserve (SPR) to domestic refiners serving rural markets represent the key to avoiding a painful duplication of past mistakes when confronting future shortages.

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Senator WALLOP. Thank you, Mr. Van Arsdall, I appreciate your timeliness.

Let me just suggest to all of you, what we are hearing here is more than just tax interest, and it is going to be my intention to circulate this hearing testimony through the Energy Committee and through the Armed Services Committee. To date, this morning, the only real assessment that we have had of the national security issues was briefly from Dr. Ikle. It seems as though DOD is perhaps the only one really looking down that road long enough.

I appreciate very much the nature of your summaries, because I have read most of your testimonies, and the full amount of it is important to the Congress to work with. So, I appreciate it.

Mr. Hancock.

STATEMENT BY NOLAN HANCOCK, CITIZENSHIP LEGISLATIVE DIRECTOR, OIL, CHEMICAL AND ATOMIC WORKERS INTERNATIONAL UNION, WASHINGTON, DC

Mr. HANCOCK. Thank you, Mr. Chairman.

Members of the committee, my name is Nolan W. Hancock, and I am the citizenship legislative director of the Oil, Chemical & Atomic Workers International Union. We appreciate this opportunity to testify on behalf of OCAW concerning the use of taxing authorities to effect national energy policy.

U.S. energy policy is being adversely affected by unfairly subsidized imports of gasoline which are causing shutdowns of additional refineries and the loss of essential and skilled personnel.

The market-distorting practices of OPEC and the tariff and nontariff barriers of Japan and Europe are affecting our ability to meet U.S. energy requirements. Crude is worthless without the ability to refine it. The question is, where is it going to be refined in the future? If you want the market to set energy prices and allocate its use, as well as to protect our national security, you have to focus those policies on our refinery industry.

The primary focus up to now has been on crude oil. As foreign government monopolies move directly downstream into refining, it changes everything. The shift from undue dependence on crude and residue oil to an increasing dependence on gasoline and gasoline-blend stocks—this undermines our previous assumptions on energy policy and national security and is actually thwarting those policies.

The rapidly increasing volume of imports of refined products has had a devastating effect on employment. The Department of Labor estimates that there are 20,400 fewer production workers in petroleum refineries today than at the end of 1980. This ripple effect, triggered by refinery layoffs, can devastate entire communities. As an example, when Texaco decided to reduce capacity by half at its Port Arthur, TX, refinery, 1,400 OCAW workers were laid off. Texaco estimates that the elimination of 1 refinery job in Texas resulted in the elimination of 5 additional local jobs and up to 13 other jobs elsewhere in the State. Communities that until recently were thriving may soon become ghost towns.

Refineries require highly skilled employees to operate efficiently and safely. Once a refinery is shut down, these workers are dispersed. When we need to restart those idle refineries or to build new ones to meet our critical needs, many of these employees cannot be found to return to their jobs. You cannot run a refinery without the skilled workers.

The policy implications are clear: The United States is allowing its ability to convert crude oil into essential refined products to be destroyed and replaced with imports from refineries halfway around the world, from China to Saudi Arabia.

Imports have injured domestic refiners by reducing their historic market shares and by pushing down prices to the point where profitability is severely jeopardized.

The ability of foreign producers to sell cheaply is not due to any advantage in technology or productivity; rather, it is a direct result of foreign dumping of government policies that subsidize refinery operations.

The loss of jobs in the refinery industry are not related to wage rates. High wage rates are not the problem, because labor costs are not a great factor in the refining industry. For OCAW, 5,539 members have lost their jobs in 33 closed plants that were organized by our union. That was through the end of 1984. We estimate that overall we have lost over 12,000 jobs in the refining industry.

We know that since 1979 Saudi Arabia has increased its refining capacity by 77 percent. Six Middle East and North African refinery projects are scheduled to come onstream soon, and the U.S. market is going to be the target of those foreign producers.

Mr. Chairman, we certainly urge this committee to take a look at the areas where your taxing policy can have an effect. We want you to know that we are supporting Senator Long's bill, S. 1292, which we appreciate very much.

We are also supporting H.R. 2354, which is a tariff bill on imported gasoline at this time.

Thank you, Mr. Chairman.

Senator WALLOP. Thank you, Mr. Hancock, I appreciate your testimony.

Mr. Pitts.

Mr. PITTS. Senator Wallop, may Mr. Eisenstat go first?

Senator WALLOP. Certainly. Mr. Eisensta.

TESTIMONY ON BEHALF OF THE
OIL, CHEMICAL AND ATOMIC WORKERS INTERNATIONAL UNION
BEFORE THE
ENERGY AND AGRICULTURE TAXATION SUBCOMMITTEE
SENATE FINANCE COMMITTEE
UNITED STATES SENATE

June 21, 1985

Mr. Chairman and members of the committee, my name is Nolan W. Hancock. I am the Citizenship-Legislative Director of the Oil, Chemical and Atomic Workers International Union (OCAW). OCAW is the primary representative of workers employed in energy and fuel producing industries, with the exception of coal, and has a total membership exceeding 120,000 with members in 48 states. I appreciate this opportunity to testify on behalf of OCAW concerning the use of taxing authorities to effect national energy policy. U. S. energy policy is being adversely affected by unfairly subsidized imports of gasoline which are causing shutdowns of additional refineries and the loss of essential and skilled personnel. The market distorting practices of OPEC and the tariff and non-tariff barriers of Japan and Europe are affecting our ability to meet U. S. energy requirements. Crude is worthless without the ability to refine it. The question is: where is it going to be refined in the future? If you want the market to set energy prices and allocate its use as well as protect our national security you have to focus those policies on our refinery industry. The primary focus up to now has been on crude oil. As foreign government monopolies move directly down stream into refining it changes everything. The shift from undue dependence on crude and residual oil to an increasing dependence on gasoline and gasoline blendstocks undermines our previous assumptions on energy policy and national security and is thwarting those policies.

The rapidly increasing volume of imports of refined products has had a devastating effect on employment. The Department of Labor estimates that there are 20,400 fewer production workers in petroleum refineries today than at the end of 1980. The ripple effect triggered by refinery lay-offs can devastate entire communities. As an example, when Texaco decided to reduce capacity by half at its Port Arthur, Texas refinery, 1400 OCAW workers were laid off. Texaco estimates that the elimination of one refinery job in Texas resulted in the elimination of five additional local jobs, and up to 13 other jobs elsewhere in the state. Communities that until recently were thriving may soon become ghost towns.

Crude oil imports do not shut down U. S. refineries and do not per se defeat current energy policy to rely on market forces to set both crude and refined product prices. To the extent OPEC countries are permitted to prop up artificially high official selling prices on crude they can distort markets and defeat that policy. Some OPEC countries divert their crude oil production that would otherwise be exported at lower prices into their refineries they can partially prop up official selling prices. They then export the refined products at discounted prices relative to both the official selling price and the spot price of crude. This depresses refined product prices below production costs for competing refineries in the U. S. and eventually puts downward pressure on crude prices. But the drop in crude prices is lagging to the point more efficient refineries in the U. S. shut down. When enough U. S. refineries have been shut down, refined product import prices rise and OPEC countries can then support the higher official selling prices on crude.

It is a vicious cycle. OPEC countries and other government-owned refiners can sustain the losses in the interim. U. S. refiners, particularly independent refiners cannot. The effect is to defeat both our energy and national security policy, renew dependence on insecure sources of petroleum and petroleum product imports, and export U. S. refineries capacity offshore.

Refineries require highly skilled employees to operate efficiently and safely. Once a U. S. refinery is shut down these workers are dispersed. They find other jobs if possible and move away from the town where those refineries were located. When we need to restart idled refineries or build new ones to meet our critical needs many of these employees cannot be found and returned to their jobs. You cannot run a refinery without the skilled workers. The policy implications are clear. The U. S. is allowing its ability to convert crude oil into essential refined products to be destroyed and replaced with imports from refineries halfway around the world from China to Saudi Arabia.

II. Imports of Refined Products

Imports of refined products have increased at an accelerating rate in recent years. Net imports of refined products averaged 1.4 million barrels per day in 1984, 300,000 more than in 1982. According to the Energy Information Administration, since 1980, gross imports of gasoline have increased by 150,000 barrels per day, a 108 percent increase over four years. The comparable increase for distillate fuel oil was 128,000 barrels per day, up by 90 percent and for unfinished oils, 175,000 barrels per day, a 318 percent increase. Overall, petroleum product imports increased their share of the U. S. market to more than 12 percent. Gasoline imports are at an all time high and have almost doubled since 1981 to 7 percent of domestic consumption.

Not only are imports increasing in volume, they are also decreasing in price. Imports have injured domestic refiners by reducing their historical market shares and by pushing down prices to the point where profitability is severely jeopardized. The ability of foreign producers to sell cheaply is not due to any advantage in technology or productivity. Rather, it is a direct result of foreign dumping and foreign government policies that subsidize refining operations.

The primary foreign suppliers of gasoline are: China, the Netherlands, Italy, Venezuela, Saudi Arabia, the United Kingdom, West Germany, Brazil, the Netherlands Antilles and Mexico. Over the past four years, most of these countries have steadily increased their U. S. market shares. It has been argued in certain quarters that even today imported refined products do not hold a large share of the U.S. market. Yet even these "low" levels of imports have resulted in thousands of lost jobs for U. S. workers.

The loss in jobs is in no way related to wage rates. As Ashland Oil's Chairman, John R. Hall, has noted: "High wage rates are not the problem (in oil refining), because labor costs are not as great a factor in refining as they are in other basic industries since refining by nature is not labor-intensive."

The Department of Labor figures show roughly 20,000 fewer production workers in petroleum refining today than only four years ago.

For OCAW, 5,539 members lost their jobs in the 33 closed plants that were organized by our union. That was through the end of 1984. So far this year, closure announcements have been made that will result in 500 more members losing their jobs. Another 4,000 members have been permanently laid off due to partial closures of facilities over the last four years. In all, about 10,000 OCAW refinery workers have joined the unemployed ranks since 1980. These figures do not, however, reflect the loss in jobs due to reductions in force because of "streamlining" -- making do with fewer people wherever possible. We would guess that the total number of lost jobs would be about 20 percent higher, or in excess of 12,000 jobs.

As bad as the present situation is, the upward trend in imports during the past four years combined with numerous foreign refineries scheduled to come onstream soon creates a situation that is truly alarming. Over the next three years, approximately 1.4 million barrels per day of new export refining capacity will come onstream in the Middle East and North Africa. This will augment existing OPEC export capacity by about two million barrels per day. Assuming an 80 percent utilization rate, 1.1 million barrels per day of additional product will be entering world markets. With world demand expected to increase only marginally, the new product will further depress the market and aggravate conditions in the U.S.

Since 1979, Saudi Arabia has increased its refining capacity by 77 percent. Six major Middle East and North African refinery projects are scheduled to come onstream over the next few years. Approximately

700,000 barrels per day of rated capacity will start up by year end 1985, with the balance by 1987. OPEC's limits on export volumes of crude oil are not matched by similar limits of exports of petroleum products. Consequently, there's a strong incentive for the OPEC nations to refine their crude domestically and sell the products in foreign markets.

Other developing nations also plan to significantly increase their refining capacity. As reported in the Oil and Gas Journal, Nigeria has recently decided to build a 150,000 barrel per day re-refinery in Port Harcourt which is expected to result in about 100,000 barrels per day of exportable product. In its national industrial development plans, Mexico has indicated its intentions to significantly increase the size of its refining industry. As noted in the recent publication by the International Trade Commission, "Potential Effects of Foreign Governments' Policies of Pricing Natural Resources," (May 1985), a major rationale behind the expansion plans is to expand exports to gain additional foreign exchange.

The U.S. market will clearly be the target for foreign producers. I wish to bring to the Committee's attention Saudi Arabia Minister of State's remarks in reference to the new 250,000 barrel per day refinery in Yanbu. He states: "We designed the Yanbu refinery in particular with the U. S. in mind. The gasoline is not good for Europe. Basically it is good for the United States."

Moreover, many foreign markets are already oversaturated with refined products. Even if the new export refineries plan to direct their product to the European market, displaced capacity would have a direct impact on the U.S. market. Already, exports of European refined products to the U.S. have increased dramatically.

Finally, many major foreign markets restrict the importation of refined products. The International Energy Agency recently prepared a preliminary overview of trade measures in a number of OECD countries affecting oil products.

1. France maintains restrictions (import licensing) which limit the access of non-EC products to 20 percent of total French imports.
2. In Greece, the state has a monopoly on product imports. These imports are subject to a licensing scheme executed by the Ministry of Trade.
3. In Ireland, oil companies are obliged to purchase 35 percent of their product throughput from the domestic refinery.
4. According to the administrative decision, Japan does not allow gasoline imports. An attempt by a Japanese oil distributing company to import gasoline from Singapore was recently blocked by the Ministry of Industry and International Trade.

The above examples all demonstrate that if the U.S. does not take effective measures soon to reduce the flood of refined product imports into the U.S. market, the domestic industry will be forced to cut back severely and the U.S. will become increasingly dependent on foreign energy sources.

Skyrocketing imports and refinery shutdowns clearly weaken national security. The threat of possible supply disruption is increased, and the ability of the refining industry to provide adequate supplies of refined products in the event of required mobilization of U.S. armed forces is jeopardized. I am not an alarmist, but it is not difficult to imagine various scenarios under which the supplies of refined products of the U. S. could be disrupted. We cannot afford to assume that in a crisis, trade flows would be unaffected. Furthermore, we should not forget that less than 12 years ago we were the victims of an embargo.

The inadequacy of the Strategic Petroleum Reserve (SPR) is also very important. The SPR was a key element of the elaborate system of law and policy constructed in the wake of the energy crisis of 1973 and 1979 to protect the U.S. national security in the event of a crude oil import disruption. As a result of the greatly increased imports of gasoline and blend stocks and the forced closing of refineries, we are nearing the point where we cannot offset the petroleum and refined petroleum supply disruption by drawing on the SPR on the planned rate of 4.4 billion barrels per day.

At the maximum withdrawal rate, we can barely process domestic production plus SPR withdrawals -- even at an unrealistic 100 percent utilization rate. This situation only promises to get worse when more refineries are forced to close. Once a refinery is idle, it cannot be simply turned back on because of need. The cost for restarting an average sized idle refinery can run as high as $100 million. Moreover, once idle, plants degenerate quickly and require substantial repair before they can be started up again. Finally, plant personnel must be highly trained to run a modern refinery safely and efficiently. Adequate training requires a minimum of three to six months, although for some higher skilled jobs it takes years to develop the necessary experience and skills.

III. The Human Cost

Our union represents people. Therefore, it is the impact of these surging imports on people's lives about which we are primarily concerned. This impact has been devastating.

As I indicated earlier, roughly 10,000 OCAW refinery workers have been laid off. Many of these closures are due directly to foreign competition.

Our members are highly skilled employees. Shutting the door on their jobs not only leads to industrial decay, but it forces these highly skilled workers to accept jobs, if they can find them, in much lower paying fields, and leads often to great human suffering. To make matters worse, the President's proposed budget will do away with needed worker adjustment assistance proposals, making the situation more critical.

Our nation cannot afford to let its key industries be driven out of business by foreign policies and products. We are not playing on a level field of equal competition, and American communities and families are suffering as a result as well as, we believe, our national security.

The Oil, Chemical and Atomic Workers strongly urge the Congress to take action to stem the tide of imported refined products. We are not seeking protection. We only want the opportunity to compete on an equal footing with foreign producers. If the label of protectionism is used, that does not concern us, nor should it concern this administration. National security is not achieved merely through the buildup of more and more sophisticated equipment. The defense of the interests of the U.S. and its citizens also requires a strong industrial base. Our workers should not pay the price of a foreign government subsidy program.

We appreciate this opportunity to testify before this Committee and thank you, Mr. Chairman, for your personal interest in this vital issue.

STATEMENT BY SAMUEL M. EISENSTAT, PRESIDENT, COUNCIL FOR A SECURE AMERICA, NEW YORK, NY

Mr. EISENSTAT. Thank you, Mr. Chairman, members of the committee.

My name is Samuel Eisenstat, and I am pleased to be here in my capacity as president of a newly formed organization called the Council for a Secure America. With me is my esteemed colleague on the council's board of directors and one of the council's founding members, Mr. Frank Pitts. Mr. Pitts is particularly well qualified to represent the council here today because he has been an independent producer of oil and natural gas for more than 40 years.

The Council for a Secure America was created less than a year ago to educate the American public and its officials of the pressing need to bolster U.S. national security and provide for a forthright and unfettered U.S. foreign policy. In pursuit of this aim, a coalition of two key American constituencies emerged—members of the domestic oil and gas industry, and friends of the State of Israel in the United States. They came together to espouse the following inescapable truths: First, neither the United States of America nor the State of Israel can afford the threat to U.S. national security imposed by unacceptable levels of imported crude oil and refined products from often hostile and unstable foreign governments. Second, to ensure independence from the intolerable risk of foreign imports, the domestic oil and gas industry must remain vital enough to explore for, produce, and refine reserves sufficient to replace and add to current domestic production. Third, the key to preserving and maintaining a thriving domestic oil and gas industry is the independent oil and gas operator who drills 89 percent of the exploratory or wildcat wells in the United States. This activity locates the new reserves of oil and natural gas we have to be constantly finding to maintain and increase our rate of production. Finally, tax policy will make or break the goal of energy independence. Tax law that allows the development of U.S. crude oil, natural gas, and natural gas liquids is every bit as justified today as it ever was.

Independent oil and gas operators are especially sensitive to tax law. Their capital is not cash in the bank but oil and natural gas in the ground. From the revenues from the sale of their production and investments they attract, venture capital is generated for their drilling programs. Thus, tax policy decrees whether critically needed venture capital will be available to keep the rigs running.

Let's take a look at the domestic industry today. Energy is the lifeblood of our industrial society, and oil and natural gas provide approximately 60 percent of that energy. This will be true for decades to come. The trend, however, shows we are not moving forward; to the contrary, we are moving backward. The number of active drilling rigs in the country has dropped by 40 percent since 1981. Some argue that drilling is down because demand is down; that is certainly contrary to the fact that we imported over 5 million barrels of crude oil and refined products per day in 1984. These imports cost over $54 billion, which constituted 45 percent of the total foreign trade deficit. The size and growth of this deficit is considered by many as the most dangerous trend in our economy today.

The large trade deficit, however, is not the only unfortunate consequence. As this week's events should remind us, all the terrorist groups in the Mideast, without exception, likely receive their major funding from petrodollars, dollars that the free world must pay for oil from the Gulf area. Without the hundreds of millions of dollars they receive annually from the oil-exporting countries these terrorists could not have acquired the huge bank accounts, limitless quantities of sophisticated modern weapons, and freedom of travel throughout the world.

Others argue that drilling is down because there is so little left in the United States to be found. The truth is that vast supplies of oil and natural gas remain to be produced, and a chart attached to our testimony prepared by Mr. Pitts shows that 98 percent of our prospective sediments remain to be explored.

The present tax law regarding intangible drilling costs is the independent's jugular. It, along with percentage depletion, has made it possible for independent producers to serve the energy interests of this Nation by increasing their drilling activities and finding more reserves. The Administration's plan proposes to spare the vein from the knife. If the treatment of IDC's is not preserved in their current form, and if the depletion allowance is eliminated, then 30 to 40 percent of our reserves will not be expropriated.

Thank you very much, sir, and I would now like to turn it over to Mr. Pitts.

Senator WALLOP. Thank you, Mr. Eisenstat.

[The prepared statement of Samuel Eisenstat follows:]

TESTIMONY

of the

Council for a Secure America

before the

Senate Subcommittee on Energy and Agricultural Taxation

of the Committee on Finance

June 21, 1985

Washington, D.C.

Mr. Chairman:

Members of the Committee

My name is Samuel Eisenstat. I am pleased to be here in my capacity as President of a newly formed organization called "The Council for a Secure America." With me is my esteemed colleague on the Council's Board of Directors and one of the Council's founding members, Mr. Frank Pitts. Mr. Pitts is particularly well qualified to represent the Council here today because he has been an independent producer of oil and natural gas for more than 40 years.

Since this is the Council's maiden voyage before a Senate Committee, I would like to take a few minutes to introduce the Council to you and to discuss the reasons for the Council's core concerns with U.S. energy and tax policies. Mr. Pitts will thereafter talk with you about the inextricable and precarious linkage between energy and tax policies and national security.

The Council for a Secure America was created less than a year ago to educate the American public and its officials of the pressing need to bolster U.S. national security and provide for a forthright and unfettered U.S. foreign policy. In pursuit of this aim, a coalition of two key American constituencies emerged. Members of the domestic oil and gas industry and friends of the State of Israel in the U.S. came together to espouse the following inescapable truths.

1. Neither the United States of America nor the State of Israel can afford the threat to U.S. national security imposed by unacceptable levels of imported crude oil and refined products from often hostile and unstable foreign governments.

2. To insure independence from the intolerable risk of foreign imports, the domestic oil and gas industry must remain vital enough to explore for, produce, and refine reserves sufficient to replace and add to current domestic production.

3. The key to preserving and maintaining a thriving domestic oil and gas industry is the independent oil and gas operator who drills 89% of the exploratory or wildcat wells in the United States. This activity

locates the new reserves of oil and natural gas we have to be constantly finding to maintain and increase our rate of production.

4. Finally, tax policy will make or break the goal of energy independence. Tax law that allows the development of U.S. crude oil, natural gas, and natural gas liquids is every bit as justified today as it ever was. Independent oil and gas operators are especially sensitive to tax law. Their capital is not cash in the bank but oil and natural gas in the ground. From the revenues of the sale of their production and investments they attract, venture capital is generated for their drilling programs. Thus, tax policy decrees whether critically needed venture capital will be available to keep the rigs running.

On April 11, 1870, Robert Lowe, Viscount of Sherbrooke, testified before the House of Commons on tax matters. He is said to have referred to the Chancellor of the Exchequer as a

> "...man whose duties make him more or less of a taxing machine...intrusted with a certain amount of misery which it is his duty to distribute as fairly as he can."

I know you gentlemen must be able to empathize with the sentiment expressed, and the Council surely believes that the issue of fairness is important to tax policy. But, fairness must be viewed in a broader light when the national security is at stake.

Let's take a look at the domestic industry today. Energy is the lifeblood of our industrial society. And oil and natural gas provide 70% of that energy. This will be true for decades to come.

Thus, the need for precious oil and gas resources is of no short-term duration. The trend, however, shows we are not moving forward; we are moving backward. The number of active drilling rigs in the country has dropped by 40% since 1981.

Some argue that drilling is down because demand is down. That is certainly contrary to the fact that we imported over 5 million barrels of crude oil and refined products per day in 1964. These imports cost over 54 billion dollars, which constituted 45% of the total foreign trade deficit. The size and growth of this deficit is considered by many as the most dangerous trend in our economy today.

The large trade deficit, however, is not the only unfortunate consequence. As this week's events should remind us, all the terrorist groups in the Middle East, without exception, likely receive their major funding from petrodollars - dollars that the free world must pay for oil from the Gulf area. Without the hundreds of millions of dollars they receive annually from the oil exporting countries, these terrorists could not have acquired huge bank accounts, limitless quantities of sophisticated modern weapons, and freedom of travel throughout the world.

Now let's move to ask, what about energy demand in the future?

Charles Ebinger, Director of the Energy and Strategic Resources Program at Georgetown University's Center for Strategic and International Studies, recently said that after several years of decline, energy consumption is on the rise again and will keep rising as the current economic recovery spreads within the U.S. and to other countries.

Others argue that drilling is down because there is little left in the United States to be found . The truth is that vast supplies of oil and natural gas remain to be produced. A map, prepared under the auspices of my distinguished colleague, Mr. Frank Pitts, and attached as an exhibit to the Council's testimony, shows that 98% of our prospective sediments for the accumulation of oil and natural gas remain untouched by drilling. Only 3% of our offshore acreage has even been leased.

The present tax law regarding intangible drilling costs is the independent's jugular vein. It, along with percentage depletion, has made it possible for independent producers to serve the energy interests of this nation by increasing their drilling activities and finding more reserves. The Administration's plan proposes to spare the artery from the knife. If the treatment of IDC's is not preserved in their current form, and if the depletion allowance is eliminated in its entirety, the nation's drilling activity will plummet by 30 to 40% and new reserves will decline by a like amount. This would be totally unconscionable.

The Council considers America's national security through energy independence a *sine qua non*. Without the independent producers, it cannot be achieved; without present tax provisions, they cannot survive. To forfeit these provisions is tantamount to an abdication of national responsibility.

At this time, I will turn the floor over to Mr. Pitts to share with you the Council's view of the geopolitics of energy and the vulnerablity of the U.S. and Israel in the area of national security.

My name is L. Frank Pitts.

In today's oil glut euphoria, it is easy to forget the panic and helplessness that gripped this nation during the two oil shocks of the 1970's and the hand-wringing editorials in every major newspaper about the need to free ourselves from oil blackmail. Obviously, the only way to achieve this freedom would have been greater energy independence. But, instead we are sliding into greater dependence. This will mean greater dependence on Arab oil.

On this point, Sheik Yamani is quoted to have recently said:

> "The golden age of Arab oil was not in the seventies but will be in the nineties of this century..."
>
> "Oil fields of many of the oil producing countries both inside and outside OPEC will run out at the beginning of the next decade and, as a result, doors will be wide open for the Arab Gulf countries to play a major role in the oil market in view of their vast oil reserves and high production capacity."
>
> "...(Saudi Arabia's position in the world market) makes it possible to exercise tremendous monopoly power...(Saudi Arabia enjoys) the vastest oil reserve in the world with the least production cost."

Citing a recent publication of the Center for Strategic and International Studies at Georgetown University, I can report that OPEC members control at least 95% of the world's unused capacity. The Arab states, plus Iran, control 80%. If those groups were determined to employ their oil power, it is unlikely that this unused capacity would be made available more readily in 1985 than it was in 1973 and 1979 when significant volumes were withheld to support political and economic objectives.

And while the U.S. may not today rely on OPEC for a major portion of its oil, our allies in Japan and Europe do, and the United States is bound by the International Energy Agency agreement to share its oil supplies with other countries in case of emergency.

Commissioner Mack Wallace of the Railroad Commission of Texas, a Co-chairman of this Council, said in 1979 that the energy lifeline to the West is dangerously susceptible to disruptions from a variety of sources, and he specifically named the following:

--a rebel coup
--a blockade of the Strait of Hormuz
--an invasion of Kuwait or Saudi Arabia, or
--an interrupted shipping lane by one of the warring nations of the African continent.

Is there anyone in this room secure in the knowledge that none of these could occur today, or within one to five years? We must forever bear in mind that the Persian Gulf is the tinder box area of the world and the back door of Soviet Russia.

Citing again the Strategic Studies of Georgetown University, pertinent to national security is the fact that the Department of Defense is the nation's largest consumer of petroleum products. U.S. planes, ships, and land vehicles now consume more fuel than they did in 1975 when concern was expressed about supply interruptions. Consumption is anticipated to increase by 2% per year and quadruple during war. Key weapon systems in the inventory and on the drawing boards are designed to operate on liquid hydrocarbon fuels only. It is evident that the most secure sources of that fuel are domestic ones. To the extent that domestic revenues are diminished, military preparedness and sustainability are impaired.

The Council favors the diversification of America's energy base. This diversification should include development of all energy forms and conservation measures which will contribute to energy independence. However, the Council focuses primarily on oil and gas because of its strategic position and economic importance in the world today. Also, it must be noted carefully that there is at present no adequate substitute for oil in transportation uses. According to government forecasts, most of the obtainable potential for reducing oil's share of U.S. energy supplies has already been achieved.

Because of Israel's position in the Middle East and the unquestionable role it plays as a cornerstone of U.S. national security in the region, it is no wonder that we, as security conscious Americans, sought to join with the friends of Israel in common cause. Friends of Israel realize that over dependence on Middle East oil, or even the perception of such dependence, and the wide ranging impact of OPEC petro dollars on the American economy, could jeopardize the integrity of American foreign policy in the Middle East. A strong and thriving American oil and natural gas industry can prevent such influences from adversely affecting American policies in the future. This is why friends of Israel sought to join forces with the independent oil and gas operators in common cause.

The Council for a Secure America intends to press hard for national energy policies, national tax policies, and foreign policies which strengthen the cause of freedom and security and preserve the standard of life as we know it in the free world today.

In closing, I would like to direct your attention to the Exhibits we have provided you at the back of our written testimony, including a list of questions we urge the Committee to address in its inquiry in a serious and persistent manner.

Mr. Eisenstat and I are prepared at this time to answer any questions you may have. We appreciate this opportunity to appear before you, and we look forward to working with you in the future on these matters of critical national and international importance. Thank you.

EXHIBIT II

Sheik Yamani announced on Monday of this week that, due to the the rifts between the member nations of OPEC, he expected the price of oil to fall below $20 per barrel by the end of 1985. The question to be posed, as the Congress studies the security implications of OPEC, is not what HIGH prices do to our economy, but what the impact is of an industry-crippling LOW price which will shut down both producers and refiners in this nation.

Let us ask a few of the questions:

How much of the total BTU usage of energy by all the branches of the U.S. military is a dependency on imported crude or crude oil products?

What will that figure be if the current tax treatment is significantly changed or eliminated?

What will those numbers be in ten years if tax policy is changed? Twenty years?

How vulnerable are we to interruption of imported crude in time of world crisis? Are there contingency plans for bringing crude to this country in some other manner than ocean-going tankers? If not, how vulnerable are we?

How dependent are our allies upon the provision of energy supplies from the U.S. if they find themselves in a military conflict? Does our relationship with our allies draw down the SPR so that we do not REALLY have what we think we do?

Most important, are we, by a false sense of security derived from both the disarray of OPEC pricing policies and the notion of a purported world energy glut, going to allow our domestic energy producing and refining industry to become just another rusting relic of America's industrial society?

Mr. WALLOP. Mr. Pitts.

STATEMENT BY L. FRANK PITTS, PRESIDENT, PITTS ENERGY GROUP, DALLAS, TX

Mr. PITTS. Mr. Chairman and other members, Senators that are members of this committee, my name is Frank Pitts. I am from Dallas, TX.

In today's oil glut euphoria, it is easy to forget the panic and helplessness that gripped this Nation during the two oil shortages of the 1970's and the hand-wringing editorials in every major newspaper about the need to free ourselves from oil blackmail. Obviously, the only way to achieve this freedom would have been greater energy independence. But instead, we are sliding into greater dependence. This will mean greater dependence upon Arab oil.

On this point, Sheik Yamani of Saudi Arabia is quoted to have recently said:

> The golden age of Arab oil was not in the 1970's but will be in the 1990's of this century. Oil fields of many of the oil-producing countries, both inside and outside of OPEC, will run out at the beginning of the next decade, and as a result, doors will be wide open to the Arab gulf countries to play a major role in the oil market, in view of their vast oil reserves and high production capacity.

This chart shows the amount of oil that is concentrated, proved reserves, right in that area of the world.

Citing a recent publication, the Center for Strategic and International Studies at Georgetown University, I can report that OPEC members control at least 95 percent—I repeat, 95 percent—of the world's unused oil production capacity. The Arab States, plus Iran, control 80 percent. If those groups were determined to employ their oil power, it is unlikely that this unused capacity would be made available more readily in 1985 than it was in 1973 and 1979, when significant volumes were withheld to support political and economic objectives. And while the United States may not rely so heavily on OPEC for a major portion of its oil at the moment, our allies in Japan and Europe do. And the United States is bound, as we have heard this morning, by the International Energy Agency Agreement to share its oil supplies with other countries in cases of emergency.

Citing again the strategic studies of Georgetown University pertinent to national security is the fact that the Department of Defense is the Nation's largest consumer of petroleum products. U.S. planes, ships, and land vehicles now consume more fuel than they did in 1975 when concern was expressed about supply interruption.

Consumption is anticipated to increase by 2 percent per year, and to quadruple during war. Key weapon systems in the inventory and on the drawing boards are designed to operate on liquid hydrocarbon fuels only. It is evident that most secure sources of that fuel are domestic ones. To the extent that domestic reserves are diminished, military preparedness and sustainability are impaired.

That's my 5 minutes, and I am very sorry I didn't finish it. May I go on?

Senator WALLOP. Could you give us a summary statement?

Mr. PITTS. I have a little summary on the Council, if I may, just a half a moment.

The Council favors the diversification of America's energy base. This diversification should include development of all energy forms, and conservation measures which will contribute to energy independence.

However, the Council focuses primarily on oil and natural gas because of its strategic position and economic importance in the world today.

Also, it must be noted carefully that there is at present no adequate substitute for oil in transportation usage. According to a government forecast, most of the obtainable potential for reducing oil's share of U.S. energy supplies has already been achieved.

Thank you very much.

Senator WALLOP. Thank you, Mr. Pitts.

Senator WALLOP. Senator Long?

Senator LONG. Would you mind giving us your thoughts, Mr. Pitts, as to how this Nation can meet its energy needs in depth into the future? You have provided us a chart indicating that a huge amount of oil and gas could be produced in America, and I have looked at it before, and I am satisfied that that is probably correct. But after the year 2000, say 50 years from now, we might be running out of oil and gas. But would you mind explaining to us how we could continue to meet our energy needs for the next 50 to 100 years after that?

Mr. PITTS. Well, I think that we need to drill more wells for oil and natural gas. That's the only way you can find oil and natural gas. The new reserves found will correspond directly to the increased footage drilled in the country. That is the history of it.

So I say sound energy policy will be to encourage drilling activity and hold the line on imports. And the way you hold the line on imports, in my judgment, is to increase the drilling activity so that we have from 3,200 to 3,500 rigs per day running in this country rather than the 1,800–1,900 that we are running today. That's for oil and gas.

But simultaneously with doing that, that is something that is available to us today, because all of the oil and natural gas that has been found in this country to date, since 1859 when oil was first discovered, has been found on 2 percent of the potential sediments for the accumulation of hydrocarbons; 98 has been untested by drilling. Only 3 percent of our offshore areas has even been leased for oil and gas exploration. So proceed rapidly with encouraging the drilling of oil and natural gas, and simultaneously develop coal as much as you can, and all other types of energy, because one of these days oil and natural gas will be depleted. We need to develop every type of energy that we can for sound energy policy in this country.

Senator LONG. I am sure that is good music to the ears of our friend from Hawaii over here. Thank you.

Senator WALLOP. Senator Matsunaga.

Senator MATSUNAGA. Thank you, Mr. Chairman.

I think, Mr. Pitts, you have the solution, and the question is, What part should the Federal Government play in arriving at that solution which is the development of all types of energy, such as oil, coal, alternative sources. Just what part? Is the proposal of the administration to eliminate investment tax credits, energy tax credits, reduce support of oil production and gas production, is that aiming in the direction you say we ought to go?

Mr. PITTS. To reduce oil and gas production? Was that what you said? To reduce it?

Senator MATSUNAGA. No.

Mr. PITTS. I think "to increase it." And how do you do that? Is that your question? I am a little hard of hearing.

Senator MATSUNAGA. Oh, I'm sorry. Well, excuse me.

My question was: What part should the Federal Government play in the attainment of the goal you outlined in order to meet our energy needs for national security, et cetera?

Mr. PITTS. I would say, number one, leave the tax incentives that are in the current code, and also incentives for helping development of new sources of energy.

You mentioned one in speaking to one of the members earlier, one of the participants, about in your area of the world. Those types of things need to be encouraged by the Federal Government in its taxing system and not discouraged.

Senator MATSUNAGA. I agree thoroughly. As a matter of fact, you know, the experts tell us that all we need is 400 megawatts of electricity to be produced by oceanthermal energy conversion or geothermal in order to produce all the transportation needs of our state. And we had planned to be exporting liquid hydrogen by the year 1990, if plans hadn't been abandoned due to the present administration's policy.

If you have any comment on that, I will yield; but otherwise, I have this question: Of course I am sure you are as much concerned as we are on the panel here—about the rising deficit in our balance-of-trade. As many of you have pointed out, the biggest contributor towards that deficit in our balance-of-trade is imported oil. We should definitely seek to reduce our imports of oil if we are effectively to reduce our deficit in balance-of-trade. And in that connection, should we develop a policy of producing enough oil in our country domestically, as you have pointed out in this beautiful chart, to the point of even exporting refined oil to meet the needs as expressed by Mr. Hancock?

We can create jobs by establishing refineries here. So if we can go to the extent of exporting refined oil, then maybe we can resolve this deficit problem in our balance-of-trade.

Does anybody have any comments on this? Do you think we should go to the extent of exporting refined oil? Anyone? Yes, or no.

Mr. MCCOWAN. Senator, I think that would be great, and unfortunately just the opposite is happening. Imported gasoline is coming into this country at increased rates—it has increased 300 percent over the last 3 years.

Senator MATSUNAGA. That is refined?

Mr. MCCOWAN. That is refined gasoline, and a million barrels a day came in the last week of May. That has never happened before; it is going the wrong way.

Senator **Matsunaga**. That is the point of my questioning. Mr. Hancock, you have pointed to the problem which must be resolved.

Thank you very much, gentlemen. I appreciate your being here and sharing your views with us.

Senator **Wallop**. I am concerned, and clearly one has to be, about the loss of refining capacity. But gents, I know at least some of you to be what I thought was a fair collection of capitalists in a system which has provided this country with more growth and more opportunity, more anything, than any other country in the history of mankind.

So while it is fair to ask what part the Government should play in all of this—and you have answered that to a degree—let me ask you the obvious rest of that question: What part should the market play? I mean, clearly you don't want to be shielded from all competition or from all of the risks of a free enterprise world.

Frank first, and then Mr. Jandacek.

Mr. **Pitts**. I don't know how you figure we would be free in the competitive market. We have a very competitive market; there is not a business that I know of that is more competitive than being an independent oil and gas producer like I have been for over 40 years. I don't quite understand how you mean we would be shielded away.

I heard the Senator from New Jersey this morning keep talking about subsidies on intangibles. To me, that's poppycock, truthfully. If a farmer can charge off the cost of his seed and his labor and fertilizer, which he does in the year in which he pays for it, to make his crop, why in the dickens is it wrong for an independent oil and gas producer or a major oil company, as far as that goes, or anybody that drills wells to be able to charge it off in the year in which he spends the money or the company spends their money, pays their bills, for the labor of drilling the wells and the cost of drilling the wells? I don't see that as a subsidy. Maybe I don't understand the English language; but I have lived 75 years, and I don't call that a "subsidy" at all. To me, I take exception to that.

I don't really see that. I believe in the competitive market, yes, to answer your question. I don't see that the government would be "protecting" us; they would merely be allowing us to charge off in the year in which we pay the money. A lot of people seem to think that is a fictitious charge, what they call "drilling expense" or "intangible drilling." It is actual cash money on the barrelhead—you pay for expenses in the year in which you drill the well. What is wrong with charging that off?

Senator **Wallop**. Well, frankly, there is not one damn thing in the world wrong with charging that off, but I had to get you mad to get you to say it. [Laughter.]

You know? I mean, one of the problems we have is that the world at large does not know what all of these things mean.

Mr. **Pitts**. That's correct.

Senator **Wallop**. I mean, what is more mystical? I don't know who in the world ever invented the word "intangible," but from a tax perspective it was the most singularly devilish word that has ever been invented. Somebody had to explain what that is, and you just did. Now you can calm down. [Laughter.]

But we have another problem over here in the refining world, and that is more complex.

Mr. Jandacek.

Mr. JANDACEK. It is a bit more complex, Senator, but I would like to take a shot at trying to reduce it in terms that perhaps everyone can understand a bit better.

First of all I would like to state that all of us in the Independent Refinery Coalition are more than willing to allow the market to set the future for our viability in the system. I pointed out in my testimony, though, that those market forces really aren't working.

One of our problems is that the ownership of foreign refineries by Government has increased substantially over the years, and all of the crude oil that exists in these foreign countries is owned by these people. It costs them about $1 or so to lift that oil out of the ground, and they sell it for $27 or $28 a barrel, and the difference that exists between the $1 lifting cost and what they sell it for is pretty much discretionary. When they force the worldwide refining industry to pay market prices for their crude oil, and yet are willing to produce gasoline from their refineries charging a lower price for crude oil, in order to be able to penetrate our market, there is no way in the world to compete with a situation like that.

So I reiterate that we really are not dealing with a fair market in this situation.

Senator WALLOP. What is your solution to that?

Mr. JANDACEK. Well, we need to discourage the import of products into this country. I stated in my testimony that we would support Congressman Anthony's bill, which would put a more modern-day tariff on imported products. We are not absolutely certain that this would correct the situation. We are looking today at about an 80-cent gasoline, with about a 10.6-percent ad valorem rate, that would put the tax on gasoline at about 8.5 cents a gallon. We think that should be a sufficient deterrent to stop a significant amount of gasoline from coming in from foreign export refiners. We are not certain about that; maybe they would be more than willing to take an 8.5 cent reduction in their netback from crude oil and still allow their refiners to operate, but it is the best thing we see on the horizon.

Someone brought up the element of time earlier on today, and certainly it is a problem facing our industry. We have shut down 4 million barrels of capacity in the country, and a large portion of it has been in the independent sector. Most refining organizations have lost money in seven out of the last nine quarters, and time is running out. We need something that is going to stem the shutdown of refineries rather quickly. Some of the other legislation that has been proposed will certainly help us in the long term, but we need some help right now.

Senator WALLOP. Do you have any more questions, Senator Long?

Senator LONG. Just one point, if I could.

The Organization of Petroleum Exporting Countries, which we call OPEC, headed by the Arabs that have most of that oil, have pretty well demonstrated to us what they would like to do if they can; they would like to charge us $40 a barrel or even more than that for oil for their economic benefit at our expense. It is fairly clear to me that the reason they are not charging us that much is that they have to compete with you people that we see right here in front of us. And as long as you are able to produce and compete with them, they have to sell for a lot less than that in order to have a market.

But meanwhile they have made plans that they would like to make a lot of money out of refining, too. Now, in order to get themselves in the kind of powerful position that they enjoy in the crude oil market, or at least used to have in the crude oil market, they need to expand the market for their refined products and put a lot of you people out of business, like your company and others, Mr. McGowan—and they can do that if we let them. For example, they can take the oil which they can produce at $1 a barrel and that takes our people about $20 a barrel or more to produce; they can take that oil and put it into their refined products at a very low cost, and sell it just as cheaply as they want to. Let's say if it costs them $1, they can put it in for $1. It costs us $20. So they can price the oil component as low as they want to going to their refined products. And they can proceed, then, to sell us the gasoline for a lot less than they would sell the oil itself.

Unless our Government is willing to say that we will make sure we have an industry here, they can destroy our industry. There is no doubt about that. Isn't that in your mind, Mr. McCowan, that they can do that? With that kind of an advantage, to discriminate in the price that they charge so that they are charging a lot more for the oil than they charge for their refined products, they can put refined products in here at a price so low—just through discrimination and subsidies—that they can wipe out the American refining industry unless this Government says we don't want that to happen and takes some steps to prevent it?

Mr. McCowan. That's right. We will have transferred our dependence on crude oil to a dependence on refined products.

Senator Long. In the short run that might be good for the consumer, but when they are ready they would then proceed to do what they did to us with the oil; they increased the price tenfold at one point. And when they do that to us, then we would be at their mercy. We would have to pay that price for a long time, until we could get our own refinery industry back again.

Mr. Jandacek. And really, the national defense aspect of that problem, I think, needs to be considered very carefully.

The security aspects. We are there now on the refining capacity in this Nation. We are on the razor's edge right today.

Senator Long. We have had that type of thing done to us, and we should have learned our lesson in 1973. Some people seem to have forgotten that. We should have learned our lesson in 1979, but some people seem to have forgotten that. Just for the good of our country I would hope that people would realize that we shouldn't have to keep learning the same lesson over and over again. In the course of having to learn those hard lessons, that could adversely affect those workers you are speaking for, those refiners, couldn't it, Mr. Hancock?

Mr. Hancock. Right.

Senator Long. And I'm glad to see that you, Mr. Eisenstat, realize that if the United States is destroyed by an unwise policy of this sort that that could be the death of Israel as well, because the

United States is the reliable ally that Israel can count on. And Israel could suffer because the United States has a very unwise policy.

Thank you very much, gentlemen, I appreciate it.

Senator WALLOP. Well, Russell, because you have been so wise as to declare the end of your term as the Senator from Louisiana, I think you would agree with me that the most likely event when the next shortage occurs is that Congress, instead of looking at what ~~it failed~~ to do, will be looking for somebody else to point a finger at. It is just real convenient to blame you all at the desk down there, and make no mistake about it, it will be your fault, when it comes to it.

Senator LONG. Someone that plays the scapegoat, that's right.

Mr. McCOWAN. We've got big shoulders, Senator. [Laughter.]

Senator WALLOP. Mr. Hancock, thank you, and Tom Van Arsdall, for the case you have made in behalf of not only the security of the country but security of Americans. Agriculture, as it contributes to that security, is something that ought not to be cast off lightly in the process of making policy. We need to feed our people as well as our armies, we need to clothe them, in the case of any kind of emergency, and to voluntarily slip out of the ability to do that seems remarkably shortsighted for a country. I don't think anybody owes you nor do I sense that anybody out there is asking for, a guaranteed cushion on which to sit for the rest of the time. But, clearly, you must have the ability to survive within a set of circumstances which do not encourage a level playing field, in light of imports and a tax structure which does not recognize that the oil and gas business is like every other business in the world—it does have current expenses, and it does have some need to capitalize just like people who build buildings or people who build airplanes, and that the depreciation in whatever form that takes is just as legitimate a case of tax policy in that industry as it is in any other.

I don't know how we get there, but I know to view all of American industry as though it can respond in precisely the same way with precisely the same set of tax policies is to be very naive indeed.

We thank you for your presence here this morning.

Mr. McCOWAN. Mr. Chairman, could I leave some documents for the record, a Pace report on this study and an import report?

Senator WALLOP. Yes; and let me say again that the hearing record will remain open for 2 weeks after this. I have a statement by the Solar Lobby here, and I assume that other interested parties, as they relate to the subject of this hearing, may wish to do that. And all of your statements will be in, the record along with any additions that you have.

Mr. McCOWAN. I appreciate that. This is a flex oil price sheet showing how much products are being sold below their price of crude. Thank you, sir.

[The reports follow:]

SOURCE REFINERIES AND THEIR MARKETS

TOPPING-REFORMING

Country	Crude	Target Yield	Freight	Netback	Price at Seller's Source	Balance
Algeria	Saharan Bl.					
Algiers	To: Italy	$25.90	$0.31	$25.59	$29.50	-$3.91
	To: R'dam	27.49	0.63	26.86	29.50	- 2.64
	To: N.Y.	27.57	1.12	26.45	29.50	- 3.05
Arabia	Arab Light					
Yanbu	To: Italy	23.27	1.25	22.02	28.25	- 6.23
	To: R'dam	24.09	1.81	22.28	28.25	- 5.97
	To: N.Y.	24.89	2.31	22.58	28.25	- 5.67
Kuwait	Kuwait					
Shuaiba	To: Italy	22.34	2.06	20.29	27.30	- 7.01
	To: R'dam	22.87	2.61	20.26	27.30	- 7.04
	To: N.Y.	23.89	3.12	20.77	27.30	- 6.53
Libya	Brega					
Brega	To: Italy	25.44	0.36	25.08	30.15	- 5.07
	To: R'dam	26.89	0.89	26.00	30.15	- 4.15
	To: N.Y.	27.05	1.37	25.68	30.15	- 4.47
U.S.S.R.	Ural					
Batumi	To: Italy	23.99	0.67	23.32	27.50	- 4.18
	To: R'dam	24.73	1.25	23.49	27.50	- 4.01
	To: N.Y.	25.49	1.75	23.74	27.50	- 3.76
Venezuela	T-J Medium					
P. la Cruz	To: Italy	23.57	1.38	22.19	27.60	- 5.41
	To: R'dam	24.43	1.27	23.16	27.60	- 4.44
	To: N.Y.	25.47	0.68	24.79	27.60	- 2.81
			CRACKING			
Algeria	Saharan Blend					
Algiers	To: Italy	28.78	0.33	28.45	29.50	- 1.05
	To: R'dam	30.30	0.66	29.64	29.50	+ 0.14
	To: N.Y.	30.11	1.19	28.92	29.50	- 0.58
Arabia	Arab Light					
Yanbu	To: Italy	27.14	1.31	25.83	28.25	- 2.42
	To: R'dam	27.83	1.92	25.91	28.25	- 2.34
	To: N.Y.	28.27	2.46	25.82	28.25	- 2.43
Kuwait	Kuwait					
Shuaiba	To: Italy	26.51	2.19	24.32	27.30	- 2.98
	To: R'dam	26.84	2.79	24.05	27.30	- 3.25
	To: N.Y.	27.50	3.36	24.14	27.30	- 3.16
Libya	Brega					
Brega	To: Italy	29.14	0.39	28.74	30.15	- 1.41
	To: R'dam	30.55	0.97	29.58	30.15	- 0.57
	To: N.Y.	30.38	1.50	28.88	30.15	- 1.27
U.S.S.R.	Ural					
Batumi	To: Italy	27.27	0.71	26.55	27.50	- 0.95
	To: R'dam	27.85	1.34	26.51	27.50	- 0.99
	To: N.Y.	28.22	1.88	26.34	27.50	- 1.16
Venezuela	T-J Medium					
P. la Cruz	To: Italy	28.39	1.52	26.87	27.60	- 0.73
	To: R'dam	29.07	1.40	27.67	27.60	+ 0.07
	To: N.Y.	29.52	0.74	28.78	27.60	+ 1.18

EUROPE: GASOIL, MOGAS WEAKEN IN QUIET MARKET

London 6/17---In a quiet market, typical for a Monday but compounded by a holiday in West Germany, gasoil cargo prices edged lower. Good EEC gasoil availabilities pushed sellers to lower their NWE prices to around $216 CIF for prompt material.

The mogas cargo market was quiet and generally unchanged in both regions. Premium barges edged lower with 0.15 g/l indications at $284-285 FOB ARA and 0.4 g/l near $282 FOB ARA.

Naphtha started the day with firm talk that disappeared after New York opened. The tone edged lower with first-half June sellers around $246 CIF NWE and prompt specific indications around $251-252 CIF NWE. Both the Med and barges were quiet and unchanged.

Gasoil prices softened in NWE with the Med quiet. 2nd-half June non-EEC cargoes offered between $215-216 CIF NWE with EEC around $216-217 CIF. July non-EEC material started with early trade between $211-212 CIF NWE for 2nd-half with 1st-half July below $211 by the close. In the Med, ample EEC avails offered within the range with buyers relaxed. EEC barges traded around $217 FOB ARA in a quiet market.

The fuel oil market was quiet both north and south with levels broadly unchanged. 1%S cargoes remain geared towards the U.S. Though buyers are currently reluctant to meet sellers quotes in the mid-$140's FOB; CIF levels were stable in tone with sellers withdrawn. High sulfur indicated stable in NWE, with the tone in the Med static amid limited buying interest. Barges noted marginal trade at steady levels.

JET FUEL—CONTRACT

(FOB in ¢/gal)

Houston	74.50-75.00¢
Linden, N.J*	75.25-76.50
Los Angeles	78.50-81.00
Denver	79.80-80.60
Chicago	79.50-81.00

*Supplying metro N.Y. airports.

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Senator WALLOP. We now have the last panel consisting of Mr. Lloyd Unsell, executive vice president of the Independent Petroleum Association of America; Mr. Dwight Keating, vice president of taxation of the Grafton Coal Company of Clarksburg, WV; Mr. Phillip Huyck, director, FB Alternate Energy Corp. of New York; and Mr. Peter Blair, project director of the Energy and Materials Program of the Office of Technology Assessment.

Lloyd, thank you for your patience. Would you begin, please?

STATEMENT BY LLOYD N. UNSELL, EXECUTIVE VICE PRESIDENT, INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

Mr. UNSELL. Thank you, Senator.

I would point out that my brief statement, a summary of the statement filed with the committee, is on behalf of the IPAA and also the 37 state and regional associations listed on the cover sheet, including LAIPRO from Louisiana and the Mountain States Association.

Before I get into my brief summary, Senator, I would like to comment on the question you raised about the trouble that people have identifying intangible drilling costs. I was having a visit just recently with a prominent member of the House. I come from journalism originally and worked with the newspaper business, and I pointed out to him that I think one of the reasons this is misunderstood is that a lot of people don't realize that intangible drilling costs are just very similar to nonrecoverable expenditures that are deducted currently in almost every other industry. I pointed out, for example, that you would induce shock if you went to Mrs. Graham at the Washington Post and said:

> We're going to require you to capitalize all these high-priced editors and managers you've got down here, and the cost of your newsprint, and your ink, and your legal fees to defend yourself against Mr. Tavaloureas and others, and all your agency fees for everything from Doonesbury to James J. Kilpatrick.

Those things are all non-recoverable expenditures that are made in the course of producing income in the newspapers, yet they are deducted currently. And this Member said, "Well, they should be." I said, "Well, tell me, then, what is the difference between those items and drilling mud and logging fees and labor and day-rate drilling fees, and those kinds of nonrecoverable expenditures in the oil business?" He said, "I see none whatsoever. I agree with you, they ought to be expensed." So, I think I had a convert there, because he hadn't always felt that way. But I wanted to give you the benefit of that discussion, because I do think that every industry basically has those kinds of expenditures that are expensed for tax purposes, but they don't bear the onus—in other words, the items I named aren't called "intangible printing costs." But they are deducted, just the same.

I think the national security aspects of this inquiry have been covered adequately, and I subscribe to all that I have heard said this morning about that.

I would like to talk a little bit, then, about the philosophical question of whether tax laws are an effective and desirable instrument of energy supply policy or any economic policy. That is a proper subject of inquiry and analysis by this Congress, and such questions ought to be examined in the context of historical experience; what has been the disposition of Congress in the past? Well, from the inception of the income tax law, Congress has incorporated into law differential provisions applicable to petroleum production to compensate for depletion of capital assets, now known as percentage depletion, and to provide for expensing of nonrecoverable drilling expenditures, that is, IDC's. Both Houses of Congress have periodically conducted oversight analysis of these policies for some six decades, and such study generally has reaffirmed both their propriety and the value to the consuming public and the national interest.

Differentials in tax law have been provided in support of a multiplicity of desirable objectives—from energy production to replacement of obsolete and wornout industrial machinery to agricultural production to charitable contributions, and so on.

In the past few years we have been hearing a lot about the need for an industrial policy under which Government would determine where productivity is needed and would encourage such activity by subsidy and loan guarantees, and the like. Until now it is my view that differential tax policy has achieved the ends of an industrial policy, and has done so efficiently and effectively with a minimum of Government intervention in the affected economic activities. Existing tax provisions have recognized the special circumstances of high-risk capital-intensive exploration for petroleum fuel. These provisions have been long embedded in the economic fabric of the independent petroleum industry's operation, and their material alteration could not help but cause significant negative disruption of industry practices and operations, thus resulting in discovery and production of less oil and gas and, as has been said over and over here this morning, greater and greater dependence on foreign oil.

Thank you.

Senator WALLOP. Thank you, Mr. Unsell.

Mr. Keating?

[Mr. Unsell's written testimony follows:]

BY
LLOYD N. UNSELL
EXECUTIVE VICE PRESIDENT

BEFORE THE

SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION
COMMITTEE ON FINANCE

UNITED STATES SENATE

JUNE 21, 1985

My name is Lloyd N. Unsell. I am appearing in behalf of the Independent Petroleum Association of America, a national organization of independent crude oil and natural gas producers having some 7,000 members representing every producing area of the United States. We are joined in these views by the 37 state and regional associations whose combined memberships include virtually all independent petroleum producers in the United States.

The subject of this hearing is both timely and appropriate. Congress has built into tax law a number of differential tax provisions to achieve a multiplicity of objectives deemed to serve the national and the public interests. Energy resource development and production is only one of many such objectives which also include home ownership, charitable giving, commercial construction, replacement of obsolete and worn-out industrial machinery, agricultural production, et cetera.

We have heard much discussion about the need for an industrial policy implemented by mechanisms through which Government would determine areas of needed productivity and attempt to encourage such activity by subsidy, direct grants, loan guarantees, and the like. Until now, Mr. Chairman, differential tax policy has functioned as an industrial policy. It has done so as a self-operating mechanism, with minimum government intervention, and has operated efficiently and effectively. I know there are many who would like to see the Federal Government get its hands on the economy, and in my view one way of making this an inevitability would be to denude the Internal Revenue Code of all objective specific differentials - to in effect "neutralize" tax policy under the misguided assumption that all income is alike. All income is not alike. Among various business/industrial activities, incomes are produced with differing inputs of capital resources, different inputs of labor, differing technological requirements, and at different levels of economic risks. In my view, if the tax laws were swept clean of all provisions compensating for these and other differentials in the whole range of economic activity, we would precipitate a period of economic uncertainty and chaos that would be calamitous.

Congress has a duty and obligation to periodically review all elements of tax policy, but in my view it should conduct such review with great care. It should implement change in differentials designed to induce critically needed investment and productivity only on compelling evidence that there are better ways. I would note that decades of such oversight have heretofore produced no magic substitutes.

Before addressing energy-related tax treatment, I would like to make some general observations about our energy condition. For the past two or three years we have been overly influenced by an "energy glut" mentality that has resulted in a dangerous complacency about our eroding energy producing capability. In the view of many in our industry this complacency is resulting in an attitude of benign inaction that unquestionably threatens our nation with growing and unacceptable energy vulnerability in the next decade and thereafter.

The petroleum industry was severely criticized following the 1973 embargo for not forewarning the country of the consequences of an energy supply disruption. The fact is that many in the industry had repeatedly spoken to the obvious dangers inherent in a declining domestic energy producing capability accompanied by growing dependence on remote and insecure energy supplies. Without debating the reasons why such warnings went unheeded, I want to say that short of a major commitment to reverse the trends that are now self-evident, we risk future energy supply problems far more disruptive than any heretofore experienced.

Following the 1973 embargo, there was wide recognition that (1) the U. S. possessed total energy resources - conventional and unconventional - to meet its needs for the foreseeable future, and (2) that long-range energy security could best be achieved by encouraging development of a multiplicity of energy resources in an atmosphere of aggressive inter-fuel competition. It was assumed that oil and natural gas, the dominant fuels in the energy mix, would continue to be important components during a transition to whole new energy systems anticipated to be in place some time early in the 21st century.

Though ten years have passed, the expectation for building energy security through a multi-resource "game plan" has yet to gain any momentum. In view of these realities, which are rooted in a number of factors including economics as well as environmental and other regulatory constraints, it is apparent that petroleum fuels will remain the mainstays of the U. S. energy supply mix for decades to come. This being obvious and inescapable, the challenge in the rest of this century will be to avoid unacceptable dependence for oil and gas on sources beyond our control. We must avoid such over-dependence for two reasons: (1) first and foremost, to prevent our nation from ever being compromised as it seeks to provide sustained leadership for the Free World, and (2) to avoid risks to our economy that could dwarf those which resulted from the 1973-74 and 1979 supply disruptions.

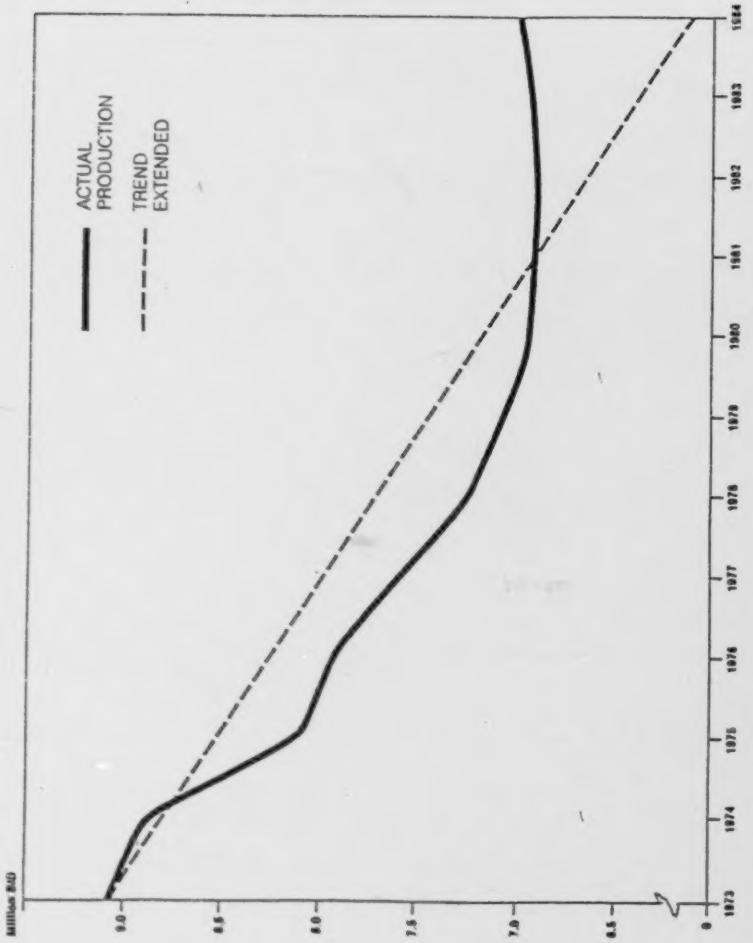
Against the foregoing background of realities, it is of critical importance that we get back to the business of maximizing domestic oil and natural gas exploration, development and production. For this reason, I am pleased to respond to the subcommittee's request that we address the energy tax proposals that are being addressed in all current "tax reform" proposals. The potential impact of some suggested changes can only be assessed with an understanding of some basic considerations revealed by the industry's structure, operations, performance, profits, expenditures, risks and capital requirements.

One of the constants in the history of the oil industry has been its consistent record of being sold short, by persons in and out of the political community. Domestic crude oil production peaked at 9.6 million barrels daily in 1970 and declined persistently by 1.5 million barrels a day in the next six years. There are few who would have predicted that this decline could have been arrested and even increased somewhat in the past five years. Chart 1 compares actual production with the trend line of the 1970-77 experience. The stabilization of domestic production excluding the North Slope was achieved by extraordinary efforts of independent producers, involving the drilling of 247,064 new oil and gas wells in the six years ending in 1984 - over twice the number drilled in the previous six year period. This gain in drilling was achieved at a cost of $117 billion - an increase of 287 percent for the same time periods.

CHART 1

RESPONSE TO DRILLING EFFORT

Crude Oil Production



Source: DOE/EIA (Data for lower 48 states)

IPAA Chart
June 1985

While these extraordinary efforts halted the production decline, few recognize the significance of this in terms of balance of payments savings, and of helping to reduce OPEC's control over both markets and prices. Except for this increased oil drilling, U. S. production would have been 1.3 million barrels per day less in 1984, and our additional costs for imported oil would have been over $15 billion.

The dominant force in not only stabilizing production, but in raising the daily output by about 300,000 barrels since 1979, is attributable to the multiplicity of efforts by independent producers. In this same period, the combined lower 48 production by the 25 or so larger companies identified as the "Chase Bank Group," actually has declined by 300,000 barrels daily. In arresting the production decline, independents have offset this production drop experienced by the major companies. As a result, the share of lower 48 production by independents has increased from 29 percent 10 years ago to about 40 percent today.

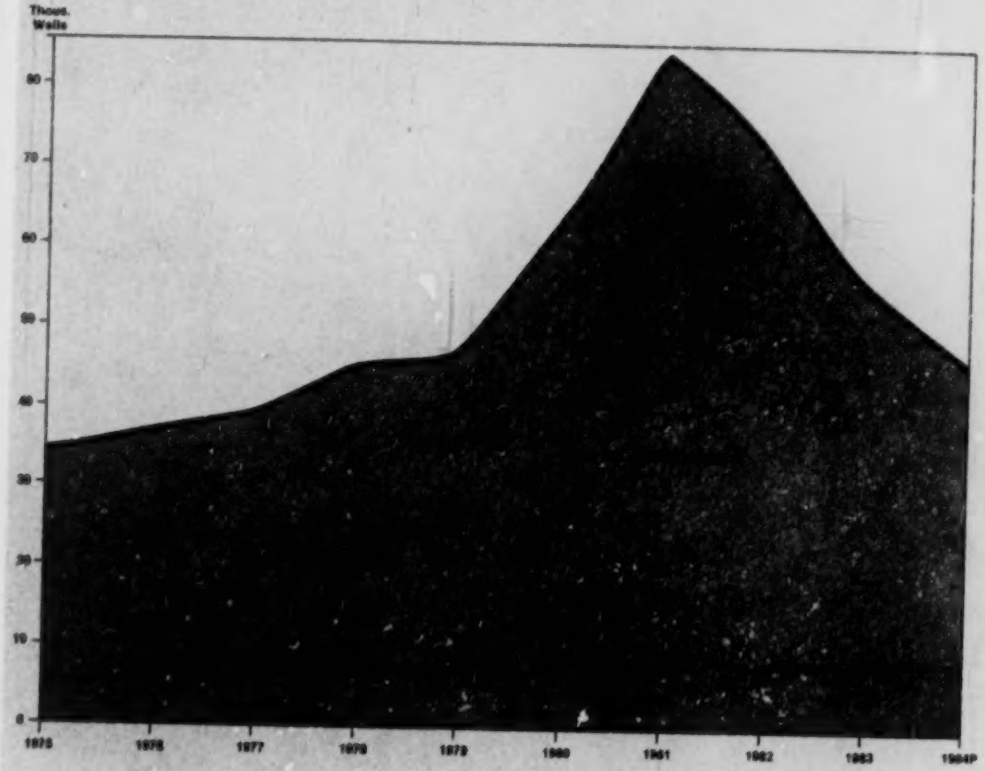
Chart 2 shows the dominant role of independents in domestic exploration/ development. They have accounted for 87.3 percent of total well completions in the past 10 years; or 550,185 wells out of 629,895 drilled. In the past 15 years the U. S. has found as much oil as it produced in only one year, 1981. As can be seen, total drilling as reported to date has dropped sharply in the past three years, with 56,633 total wells reported so far for 1984 representing only 62 percent of the 1981 well completions.

Energy vulnerability means different things to different people. Some view the question only in terms of military security. Our nation has never had a

CHART 2

TOTAL WELL COMPLETIONS

Independents vs. Majors



Source: Petroleum Information, Inc.

IPAA Chart
June 1985

fuel problem in a military emergency, however. While adequate energy supplies are important to military security, they are equally important for the transportation, employment and economic security of the American people. We learned this lesson in the 1970's during imposed shortages of petroleum liquids, as well as artificial natural gas shortages which resulted in plant and office closings and unscheduled, unpaid "vacations" for Americans in many sections of the country. We should not forget these experiences, and it should be national policy to minimize the chance that they will occur again.

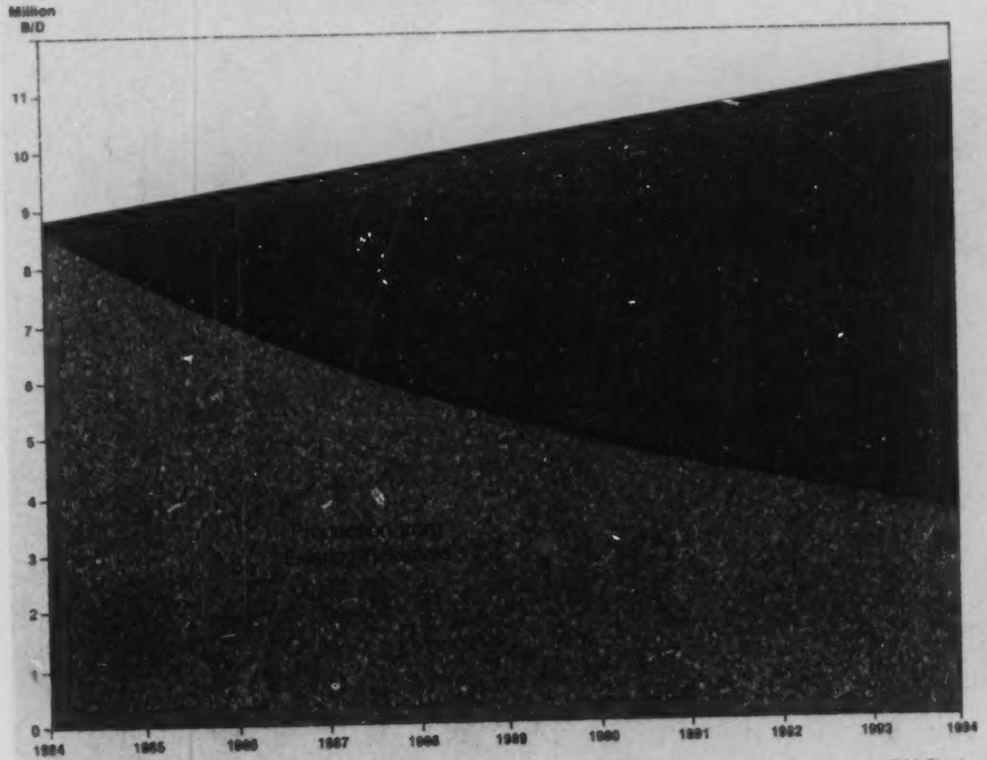
If the nation is to have relative energy security, which I would define as the ability to cope with significant import supply disruptions with no substantial or lasting impairment of economic activity, there is no question that current exploration/development drilling will have to be significantly increased. Chart 3 projects the production which must be found and deveoloped if we are to contain import dependence at the current level of about 30 percent of domestic demand. This projection assumes an increase in demand of only two percent in the period 1985-94, which is below the growth we are experiencing currently.

As can be seen, domestic production will have to be increased by 11.4 million barrels daily by 1994. Because of the natural production decline from existing wells, this means 13 million barrels of new daily production will have to be discovered and brought on stream in this period.

Now, let us look at the drilling requirements to achieve this essential growth. Chart 4 illustrates that to meet 70% of domestic demand for petroleum liquids from domestic resources in the coming decade, the industry will be

CHART 3

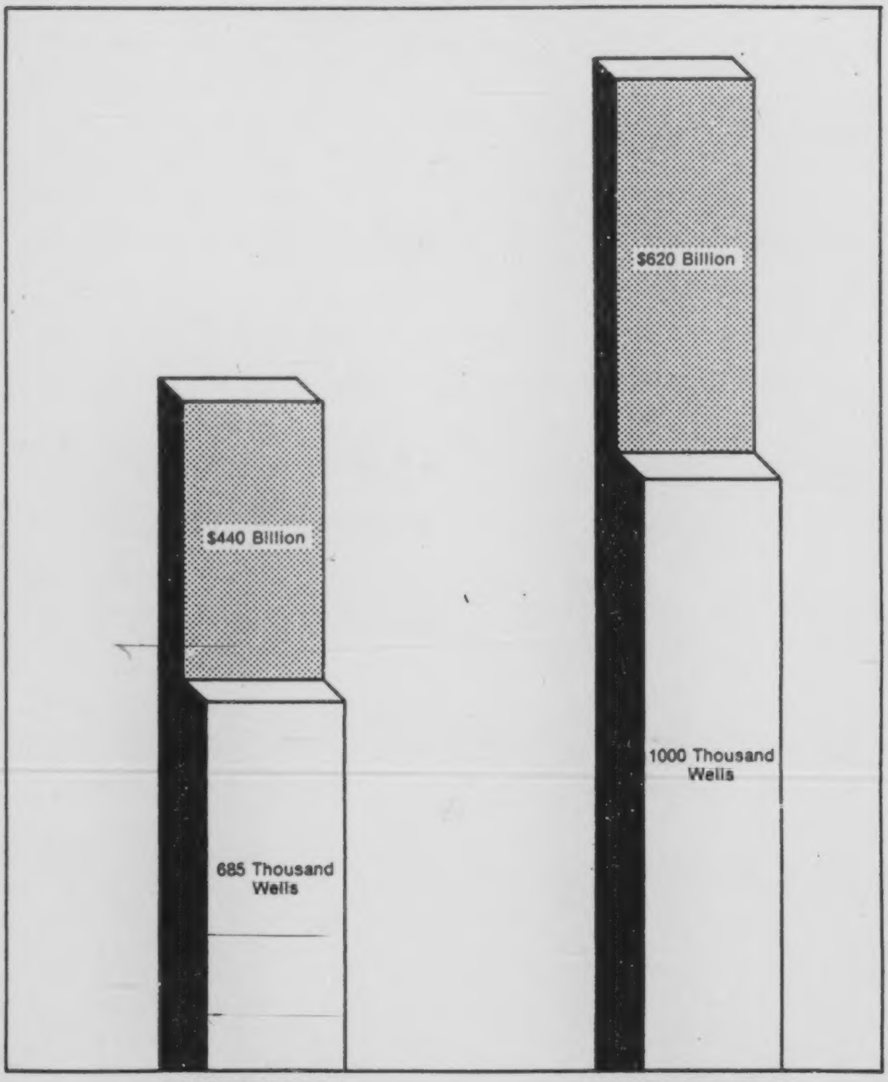
NEW CRUDE OIL PRODUCTION NEEDED
(2% Increase in Demand)



IPAA Chart
June 1985

CHART 4

ALTERNATIVE REQUIREMENTS



IPAA CHART
MARCH 1985

required to spend $620 billion and drill a total of 1,000,000 new wells. Maintaining relative energy security, in other words, will require a commitment of unprecedented capital resources to drill unprecedented numbers of wells.

How does the activity level of the industry stack up against these requirements?

Just since mid-December 1984, the number of rotary rigs at work has dropped by 850 units or 30 percent. As of today, some 60 percent of the industry's operable rotary rig fleet is idle. These facts clearly illustrate that while the economy as a whole is in its third year of recovery, the petroleum exploration/producing industry remains in a downcycle that shows no signs of abating. Recent experiences of the domestic industry have been marked by numerous sales, mergers and bankruptcies, continued difficulties in a number of oil country banks and extreme financial difficulties among a multiplicity of long-established organizations providing equipment, supplies and services to the industry.

The preceding facts, I believe, demonstrate clearly that (1) if we are to avoid growing energy vulnerability, our present level of drilling activity must be approximately doubled, (2) the domestic petroleum industry virtually is an economic "basket case" with its exploration/development programs in a state of collapse and (3) the public and the national interests will be ill-served unless we can reverse current trends and restore exploration/drilling/development activity to adequate levels.

Against this brief "state of the industry" background I now turn to the question of the propriety of and justification for existing energy tax provisions.

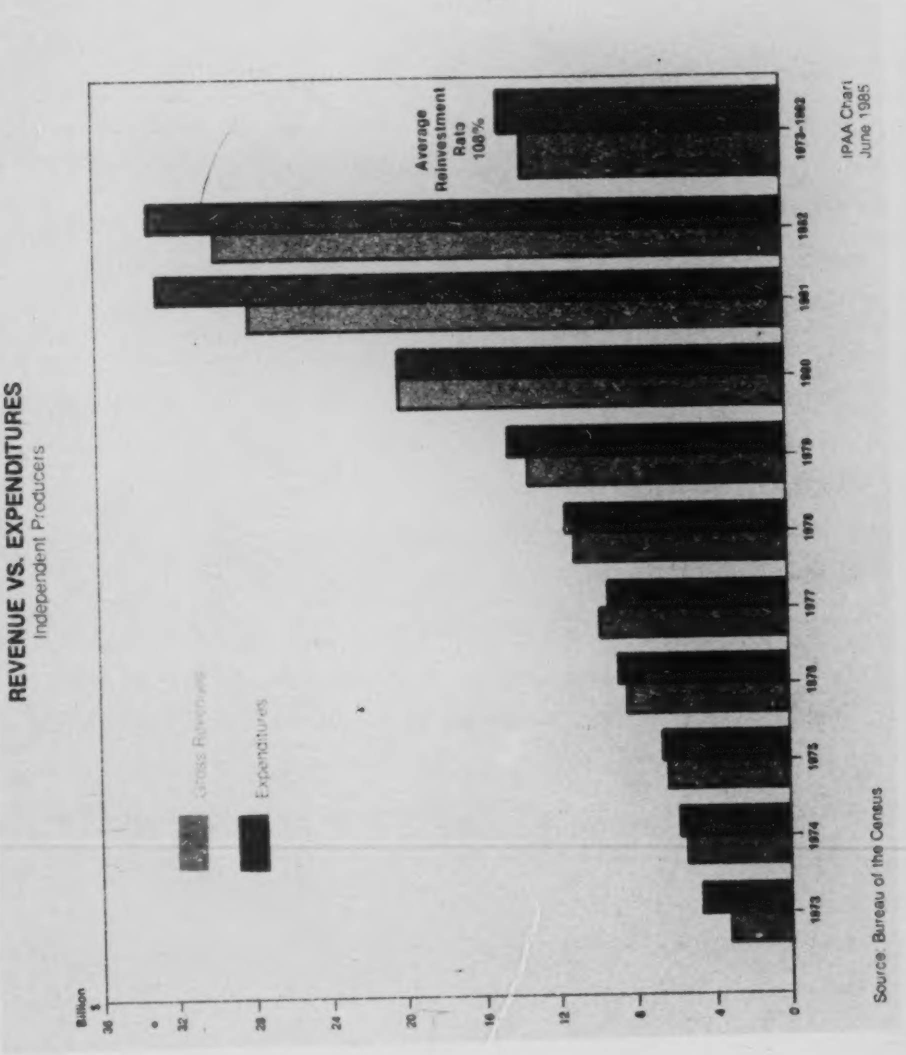
A number of fallacious assumptions have characterized much of the discussion about oil and gas tax treatment.

One such erroneous assumption is that percentage depletion permits recovery of funds in excess of invested capital. Chart 5 compares expenditures by independent producers with their gross revenues from wellhead sales of both oil and natural gas. In the 10 years 1969-78, independents as a group made expenditures equal to 108% of total wellhead revenues. It clearly is not possible that a 15% depletion rate, adjusted by three specific offsetting limitations, could over time exceed expenditures by the industry as a whole.

Another common fallacy is that oil and gas producers receive undue benefits because of oil and gas tax provisions. However, the profits of oil and gas producers reflect no inordinate benefits. Chart 6 compares the rate of return on investment of domestic oil companies with the average rate of all manufacturing companies. Over the past 20 years, the rate for oil companies has averaged 12.7%, and for all manufacturers 12.5%. Over the entire period, the rates for both track very closely. Indeed, because of the high degree of risks and cost of dry holes, the present tax provisions are required to put rates of return for the petroleum industry on an equal footing with industry generally. The table following Chart 6 shows more currently that petroleum ranked near the bottom among twenty industries on return on investment in the first quarter of 1985.

Some advocates of the "Treasury I" energy provisions argue that because of the proposed reduction in the marginal tax rate, provisions such as expensing of intangible drilling costs and percentage depletion become less important. The fallacy in this is that neither of these provisions have ever been related to the tax rate. Current deduction of IDCs and depletion were provided for

CHART 5

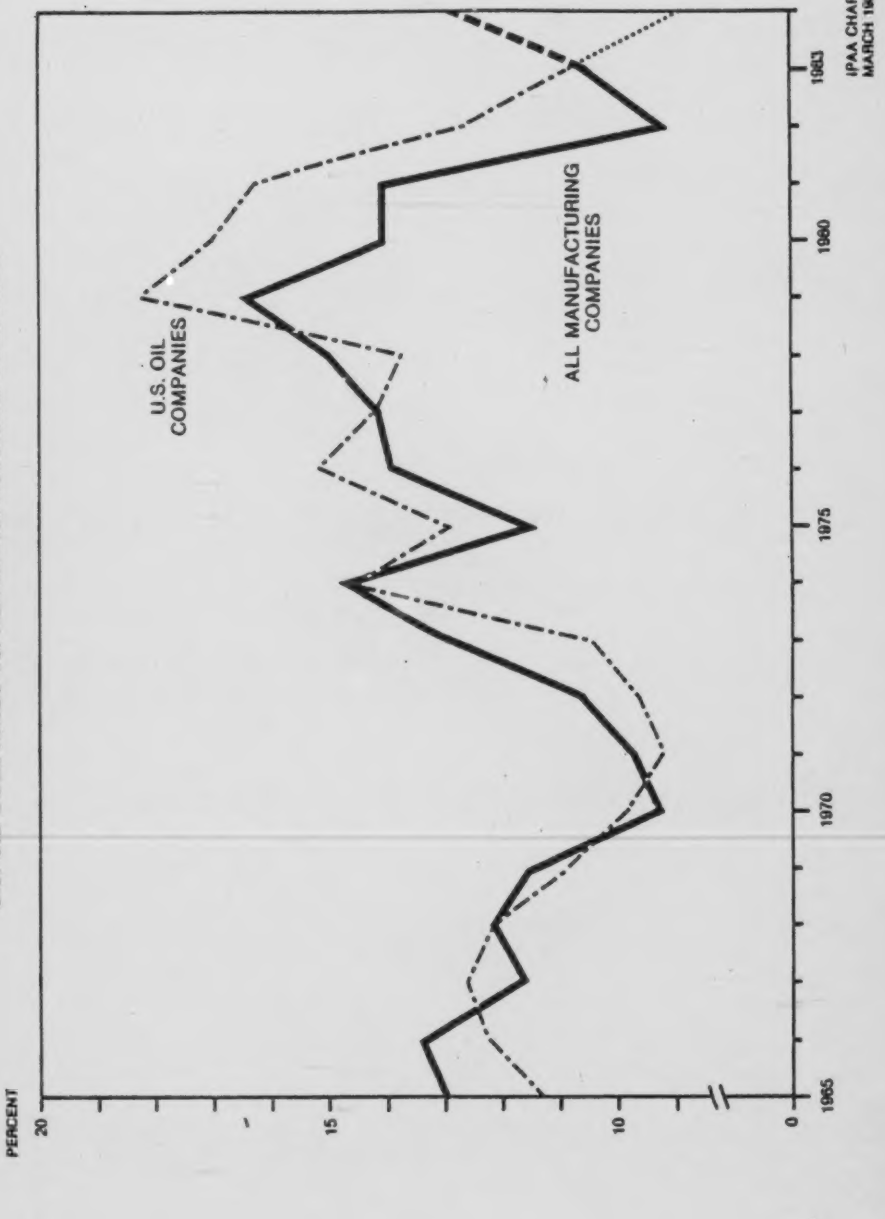


REVENUE VS. EXPENDITURES
Independent Producers

Source: Bureau of the Census

IPAA Chart
June 1985

CHART 6



RATE OF RETURN
U.S. OIL COMPANIES Vs. ALL MANUFACTURING COMPANIES

IPAA CHART MARCH 1985

TABLE 1

RETURN ON INVESTED CAPITAL
FIRST QUARTER 1985

Automotive	19.4%
Banking	17.6%
Drugs	15.9%
Tobacco	15.5%
Aerospace	15.2%
Appliances	15.2%
Electrical, Electronics	14.7%
Office Equipment	14.3%
Food Processing	14.2%
Publishing, Broadcasting	14.0%
Beverages	13.2%
Trucking	11.7%
Manufacturing	11.2%
Building Materials	9.1%
Chemicals	9.0%
Airlines	8.3%
[redacted]	[redacted]
Utilities	8.3%
General Machinery	7.0%
Railroads	6.9%

Source: Business Week
May 20, 1985

from the inception of the income tax, which started at a rate of only two percent.

These provisions have been available to the industry in one form or another for more than seven decades in recognition of the capital intensive and extremely high risk nature of petroleum exploration. Our analysis shows that, absent these provisions, the prospective return from petroleum exploration under the Treasury proposal would approximate the return from a money market account. It does not take much economic analysis to determine the probable investment choices under such conditions. Neither does it take much imagination to foresee the impact of such changes on domestic oil supplies and our energy vulnerability.

Our analysis of the Treasury proposals also shows:

- for every dollar taxed away three dollars less will be spent in exploration/development;
- if applied in 1985, 30,000 fewer wells would be drilled than will actually be the case;
- about 4,000 independent producers would be spun out of the industry almost immediately;
- by 1990, domestic crude oil production would be reduced by about 1.3 million barrels daily below projected production under current law.

In conclusion, I would like to make three points:

First, the reasons for differential tax provisions recognizing the risk and capital intensive nature of oil and gas exploration are as compelling today as when those provisions were first enacted. Short term market fluctuations such as the current "oil glut" must not lull policy makers into forgetting that America must maintain the focus of energy policy on achieving energy independence over the long term or this Nation will be held hostage to unacceptable petroleum import dependence.

Second, differential tax provisions are an efficient and effective tool in accomplishing our energy goals. Current tax provisions are a vital force in encouraging investment of the unprecedented amounts of capital required over the next decade to achieve our energy needs.

Finally, proposals to change current oil and gas tax treatment will irreversibly damage the domestic petroleum industry. These impacts will exacerbate negative trends in an already crippled idustry. With the domestic industry now operating at only one-half the needed level, having idled 60% of operable drilling rigs, adoption of the Treasury energy tax changes would collapse what is left of our exploration effort. Our chronic balance of payments would worsen and OPEC's influence over energy markets and prices would be strengthened.

STATEMENT BY DWIGHT KEATING, VICE PRESIDENT, GRAFTON COAL CO., CLARKSBURG, WV

Mr. KEATING. Mr. Chairman, my name is Dwight Keating. I am vice president at Grafton Coal of West Virginia. I am representing the National Coal Association and the Mining and Reclamation Council. I will summarize my written statement.

It is true that currently consumers are benefiting from the oil glut. It is also true that we have a temporary oversupply of coal. But gentlemen, it is almost certainly true that this situation will not last. Today's overcapacity and coal's low profits will create tomorrow's shortages.

The coal industry is in a worldwide recession; both domestic and foreign production is down in 1985. Artificially low natural gas prices, the oil glut, and high transportation costs for coal are making coal less competitive with other fuels. An additional tax burden will only increase the problem.

In spite of the current downturn in our markets, we must begin now to accommodate expansion and growth for the future. By conservative estimates, the coal industry will require capital investments of at least $30 billion in constant dollars between now and the year 2000, based on projected demand of 1.3 billion tons. This amount is well in excess of the current total industry capitalization of almost $20 billion.

While capital costs for coal mining vary according to the terrain and depth of the seam, it is generally accepted in the coal industry that the capital cost to install a new deep mine is about $75 per ton of annual production, or $400,000 of investment for each mining employee.

Production costs are skyrocketing; total industry production costs increased over 100 percent during the period 1974 to 1984. The cost of machinery alone was up over 125 percent during that period. Yet, prices for coal have increased by a smaller percentage. In fact, in constant dollars, the national average mine mouth price of coal has declined by 18 percent from 1975 to 1984.

The coal industry has survived this shrinking margin between cost and prices by making the necessary investments to increase productivity.

I stated in broad terms the capital requirements of the industry. Coal must compete in the financial markets for these funds. Given the high risk nature of coal mining and its low profit margin, any reduction in tax incentives that have a current or future adverse impact on profits will further dry up any available capital for opening new mines. This reduction in the rate of return will both decrease the attractiveness of the coal industry to outside investors and substantially reduce the availability of internally generated working capital for new investments. As a consequence, the subcommittee should anticipate that the cost of capital for the coal industry will increase, and that the coal industry will stagnate and begin to shrink as new investment capital and operators leave the industry.

An additional likely consequence of the increase in the cost of capital for the coal industry will be a decline in the rate of productivity increases that the industry has experienced for the past 7 years. Over that period, production per manhour has increased 175 percent in underground mines and 145 percent in surface mines. This impressive record of productivity increases is likely the result of investment in improved technologies for extracting coal and the acquisition of more productive equipment to be used in the mines.

Elimination of percentage depletion for the coal industry will restrict the availability of capital for such investments in the future, thereby threatening future productivity increases in the coal industry. This will result in an increase in the production cost of coal relative to competitors to the U.S. coal industry in both domestic and international markets.

Thus, the committee should anticipate increased coal and oil imports into the United States for power generation; increased electricity imports from Canada; a decline in the U.S. share of world coal markets; a reduction in coal's contribution to the balance of trade; and, last, larger prices than would have occurred if depletion remained.

Therefore, the administration's proposals seem to single out coal and the hard-rock mining industry for some type of special punishment. I would like to tell you today just how much elimination or reduction of some of these tax provisions costs the coal industry and hard-rock mining industries. However, that information is currently being compiled through extensive industries by Price Waterhouse for the National Coal Association and Arthur D. Little for the American Mining Congress, and it will be available for future subcommittee or full committee hearings on impact of the President's proposal on coal development.

Thank you.

Senator **Wallop**. Thank you, Mr. Keating. We would ask, as the information becomes available, that you not wait for a hearing but make it available to us. I would appreciate it.

Mr. **Keating**. Yes.

Mr. Huyck?

[Mr. Keating's written testimony follows:]

NATIONAL COAL ASSOCIATION
MINING AND RECLAMATION COUNCIL

Testimony of

Dwight Keating

on behalf of

National Coal Association and
Mining & Reclamation Council of America

before the

Subcommittee on Energy and
Agricultural Taxation

of the

Senate Finance Committee

June 21, 1985

Testimony of Dwight Keating

Mr. Chairman, my name is Dwight Keating. I am Vice President of Grafton Coal Company, headquartered in Clarksburg, West Virginia. We are a small-to-mid-sized company producing about a million tons of coal a year. My statement will be brief, and addresses our most pressing concern, the continuation of the percentage depletion for coal. I am testifying on behalf of the National Coal Association and the Mining and Reclamation Council of America. Together, these two organizations represent about 75 percent of the Nation's total commercial coal production.

Meeting the continuing need for energy is one of the principal problems facing our Nation. It is true that currently we are benefitting from the so-called "oil glut." It is also true that we have a temporary over-supply of our most abundant fuel--coal. But gentlemen, it is almost certainly true that this is a situation that won't last.

There exists a series of proposals designed to raise billions of dollars during the next few years, many impacting adversely on the coal industry. Many of these proposals are laudable attempts to impart "fairness" to the tax code, but the reforms often amount to a redistribution of the tax burden. Much of the revenue would be raised by taking back many of the production and capital formation incentives granted business during recent years. While there are other reforms I might question, I wish to address one provision of the Internal Revenue Code that enables the U.S. to be the most efficient, safe, and environmentally sound coal producer in the world.

Let me begin by saying that the coal industry pays its fair share of taxes, but that many of its capital investments made today are only marginally profitable, in part due to the one or two major tax provisions that encourage exploration and developemnt. Naturally, the coal industry is concerned about proposals that phase out percentage depletion for coal and practically eliminate expensing of exploration and development costs. Any changes to these provisions would compound the tax burden on the coal industry, as would proposals to eliminate the capital gains treatment for coal royalties and the accural of reclamation reserves. Any adverse changes, of course, would ultimately impact coal's customers, especially utilities and ultimately the ratepayer.

It should be observed that coal's 10 percent depletion allowance is already low compared to other minerals, which receive allowances as high at 22 percent. While all domestic minerals are extremely important to the Nation's welfare, I doubt that any are more important to the economy and our energy independence than coal.

The coal industry has been severely impacted by the current worldwide recession. Both domestic and foreign production are down in 1985. Hundreds of mines are closed and thousands of miners are out of work. Artifically low gas prices, the oil glut, and high transportation costs for coal are making coal less competitive with other fuels. An additional tax burden will only increase the problem. And adverse changes to percentage depletion will hurt the small producer such as my company, as well as the large company with many mines, since depletion is figured on a mine-by-mine basis.

In spite of the current downturn in our markets, we must begin now to accommodate expansion and growth in the future. By conservatiive estimates, the coal industry will require capital investment of at least $30 billion in constant dollars between now and the year 2000, based on projected demand of 1.3 billion tons. These amounts are inordinately in excess of the current total industry capitalization of almost $20 billion.

While capital costs may vary according to the terrain and the depth of the seam, it is generally accepted in the coal industry that the capital cost to install a new deep mine, exclusive of the cost of coal, is over $75 per ton of annual production. These figures do not include the substantial administrative costs prior to start-up, such as securing permits, surveys, feasibility studies, and other related costs. Thus, a medium-sized mine, with a capacity of one million tons a year, represents well over a $75 million capital expenditure by the time it actually begins commercial production. These new mines will mean thousands of more jobs for miners. In terms of capital requirements, approximately $400,000 of investment will be required for each new mining employee.

Production costs are also skyrocketing. Total industry production costs increased over 100 percent during the period 1974 to 1984. The cost of machinery alone was up over 125 percent during that period. Yet prices for coal have increased by a smaller percentage. In fact, in constant dollars the national average minemouth price of coal has declined by 18 percent from 1975 through 1984. The coal industry has survived this shrinking margin between costs and prices by making the necessary investments to increase productivity.

The foregoing discussion on the capital needs of the industry illustrates why it is critically essential to the coal industry to obtain funds of a magnitude never before required.

You might well ask, "If it will not hurt them much, why worry about it?" The answer lies in the effect tax changes will have on investment in the new coal mines which the country needs in the future. A coal mine is designed to last, on the average, about 20 years, so each year the maintenance of existing demand would require new coal mines equal to about 5 percent of total capacity. When you add to that the increase demands for coal in the years ahead, you can understand that a very large number of mines must be opened. Opening new coal mines takes from 5 to 7 years, and a great deal of capital.

I stated in broad terms the capital requirements of the coal industry. Coal must compete in the money market for these funds. Given the high risk nature of coal mining and its present low profit margin, any reduction in tax incentives that have a current or future adverse impact on profits will further dry up any available capital for opening new mines.

The Subcommittee must also not lose sight of the fact that coal operators, as any other business, look at their potential return on investment (ROI) in determining whether to invest in a new mine and related facilities, and, as any other businessman, the coal operator's bottom line is making a decision based on the after-tax ROI. Percentage depletion is a significant component of ROI and a major source of cash flow for future investment. By itself, and in conjunction with other proposed tax changes mentioned herein as well as the Administration's proposal to increase the black lung excise tax by 50 percent, the after tax ROI on coal mine projects promises to be substantially lessened.

This reduction in ROI will both decrease the attractiveness of the coal industry to outside investors and substantially reduce the availability of internally generated working capital for new investments. As a consequence, the Subcommittee should anticipate that the cost of capital for the coal industry will increase and that the coal industry will stagnate and begin to shrink as investment capital and operators leave the industry and pursue ventures which promise a higher ROI.

An additional likely consequence of the increase of the cost of capital for the coal industry will be a decline in rate of productivity increases the industry has experienced for the past seven years. Over that period production per man hour has increased 175 percent in underground mines and 145 percent at surface mines. This impressive record of productivity increases is largely the result of investment in improved technologies for extracting coal and the acquisition of more productive equipment to be used in the mines. Elimination of percentage depletion for coal would restrict the availability of capital for such investments in the future thereby threatening future productivity increases in the coal industry.

This will result in an increase in the production cost per ton of coal relative to competitors to the U.S. coal industry in both domestic and international markets. Thus, the Committee should anticipate: (1) increased coal and oil imports into the U.S. for power generation; (2) increased electricity imports from Canada; and (3) a decline in the U.S. share of the world coal markets and a reduction in coal's contribution to the balance of trade deficit.

Gentlemen, coal is an essential ingredient in our national security program. Oil from Saudi Arabia is hardly a secure source. Our own reserves of oil are limited. Coal represents over 80 percent of our fuel reserves. We must keep that industry viable.

Mr. Chairman, at your request I have confined my testimony at this hearing to the impact of tax policy on energy development and independence. It is difficult not to comment on the President's proposal, since I know of no single proposal that has so unified the nation's 3,300 coal producers and its tens of thousands of employees. This proposal seems to single out the coal and hard rock mining industry for some type of special punishment and I would like to tell you today just how much elimination or reduction of some of these tax provisions would cost the coal and hard rock mining industry in dollars and jobs. However, that information is currently being compiled through extensive studies by Price Waterhouse for the National Coal Association and Arthur D. Little for the American Mining Congress, and will be available for future subcommittee or full committee hearings on coal development and the President's proposal.

I commend you for holding hearings on this vital issue, and look forward to further discussions. I will be happy to answer any questions you may have.

STATEMENT BY PHILIP M. HUYCK, DIRECTOR, FB ALTERNATE ENERGY CORPORATION, NEW YORK, NY

Mr. HUYCK. Thank you, Mr. Chairman.

My name is Phillip Huyck. I am with the New York investment banking firm, First Boston Corp. I am here on behalf of the National Hydropower Association and the Renewable Energy Institute, an umbrella organization for a number of renewable energy trade associations.

Senator WALLOP. Could you slightly raise that microphone? I would appreciate it.

Mr. HUYCK. Yes. If I could lower interest rates as easily as I could raise a microphone, I think I might be able to make a real contribution to this industry.

I think it is important to remember that when we talk about the renewable resource sector that we are talking about one end of the spectrum in terms of the tradeoff between capital and operating costs. And I think if you set the theme here today, it is that the capital-intensive industries, whether they are mining or renewables, are the most vulnerable under the Treasury's tax proposals, the most exposed. We may be suffering from a little bit of a megatrend syndrome, and that is the writeoff of the capital-intensive or smokestack industries in favor of a service-industry mentality. Maybe there is an underlying theme here that we haven't picked up on, but it may emerge in the course of some of these hearings.

Renewable resources have suffered from a timing problem. Not unlike John Maynard Keynes who wrote the brilliant book in 1918 "The Economic Consequences of the Peace," predicting the effective destruction of the German Weimar Republic, and turned around and put his money where his mouth was and speculated against the Reichsmark and went almost bankrupt because he was 3 months early, I think a lot of people in the renewable resource sector feel that they were a little early in their commitment to this sector and found that they had a very small window in which to function.

The underlying legislation that encouraged renewable resources was the 1978 portion of the energy legislation, the Public Utility Regulatory Policies Act [PURPA], which allowed the deregulated production of electricity and gave these deregulated power producers a market to sell at so-called avoided cost. As it turned out, it took several years of litigation through the Supreme Court into the early 1980's before that price could be reliably set. It also took several years for the Treasury to adopt implementing regulations of tax laws that were passed in 1978 and 1980.

The result of all this was that a reliable investment decision couldn't begin to be made until we were well over half way through the period of time that the energy tax credits were applicable to projects. And if you work backward from the completion date requirement at year-end 1985, you will find that there is a period of a year or less during which you could legitimately approach the capital markets and ask equity to commit to projects. The next time we put energy tax credits into a bill, perhaps we should have them start 2 years hence and run out, so that there would be sufficient leadtime to take legitimate advantage of them.

I think it is safe to say that the capital markets themselves—although some participants may not be—the capital markets themselves are extremely neutral, indifferent, and we rely on that. The signals that you send are going to have a dramatic impact on how they respond, particularly not only in the level of incentive that you provide for those markets but for the reliability of those incentives. It has been my experience and I suspect the experience of many of my colleagues that it has been a stop-and-go kind of signal: "Yes, you have tax credits; we are thinking of taking them away." "No, you don't have them." "You will have ACRS depreciation; we are thinking about recapture." And you end up with a situation where, with this kind of erratic behavior which requires only the discussion of a proposed tax bill by the administration, you can have a substantial chilling effect on the investment decision.

I think my final point is that no one of us is that comfortable or confident in our ability to predict the future, that we can reliably say which of the energy technologies is likely to be the most logical candidate to serve our energy needs of the future. To bring it down to home, no one of us anticipates that we are going to die tomorrow, but we all carry insurance just in case. It seems to me that the renewable energy sector, although it only represents 4 percent of energy production or power production in the United States, has a useful role to play, and has a useful insurance role in which it may function. The only question, then, is, "What is the cost of that insurance?" It may not be the extension of or expansion of energy tax credits; it may be a production credit, something that is more politically palatable and more economically attractive. But I think some approach should be used to nurture this industry which has at least reached a starting level through the next few years so that it is around when the moment comes.

As Senator Long said, from Santayana, "Those who do not learn from history are doomed to relive it," to in effect exterminate this industry or allow its expiration at this point may not be the wisest of energy policies.

Thank you.

Senator WALLOP. Thank you, Mr. Huyck. I appreciate what you are saying. I am again reminded of Mr. Morgan's testimony, where reliance only on the future 50 years hence without dealing with today is a little like saying, "I won't clothe my baby because he's only going to grow to be 6 feet tall."

Mr. HUYCK. Or like Keynes' line, "In the long run, we're all dead."

The timing question has been a fairly consistent problem here. All the differences of opinion here have largely reflected the time-horizon difference. And I think if we recognize that, there is no reason that we have to only accommodate the short-term time horizon to get over the immediate problems of a decline in domestic refining usage, et cetera, but we also have to keep our eye on the future. And it is an integrated program, I think, that is going to be critical.

Senator WALLOP. Yes, that was the root of my efforts in terms of the rules adopted last year, just to provide some consistency in all of that.

Mr. **Huyck**. Exactly.

Senator **Wallop**. You will recall how very successful I was. Mr. Blair?

[Mr. Huyck's written testimony follows:]

Testimony of

PHILIP M. HUYCK
Director
FB Alternate Energy Corporation
The First Boston Corporation
Park Avenue Plaza
New York, NY 10055

Before the

UNITED STATES SENATE FINANCE COMMITTEE

June 21, 1985

TESTIMONY

Mr. Chairman and Members of the Committee:

My name is Philip M. Huyck. I work with the New York investment banking firm The First Boston Corporation, where I specialize in the financing of cogeneration and small power production projects. I also serve as President of the National Hydropower Association (NHA), a trade association of the private hydropower industry. I also serve as a Director of the Renewable Energy Institute (REI), which coordinates policy research and provides information on the various renewable energy technologies, and am the Chairman of REI's Capital Mobilization Task Force. I appreciate the opportunity to testify here today.

I have attached as an exhibit to my comments the testimony recently given on behalf of NHA to the House Ways and Means Committee. It reflects the perspecitve of the NHA and my own perspective on the implications of the President's tax proposal.

I would like to extend the concepts expressed to a broader spectrum of technologies. It is not my purpose to engage in special pleading for any particular technology. The one thing we all should have learned in the past 12 years since the first oil shock is that no one of us is sufficiently prescient to dictate a single solution to the energy problem. Since we cannot reliably predict supply and price reliably over even an intermediate period, we need to do all we can to remain flexible to adjust to shifts in sources of supply and price volatility. The Public Utility Regulatory Policies Act of 1978 (PURPA) deregulated certain forms of electric power production. Substantial sums of capital were mobilized from new sources as the financial markets were educated to the value of investing capital to provide diverse, efficient and reliable sources of electric power. The impact on the utility industry has been substantial and, I think, beneficial. Even with the substantial incremental power sources that have been built or are scheduled for completion in the near future, many experts predict painful shortages of electric power in the foreseeable future. Without the capital mobilized by the opportunity opened up by PURPA, this situation would likely be substantially worse.

The basic laws of biology appear to tell us that no one organism is perfectly adapted to all environments. Evolution functions according to two basic concepts: random mutation and natural selection. An organism or technology may be perfectly adapted to today's circumstances, but it will inevitably be less appropriate as that environment changes. The rate of change in our energy environment is dramatic. We need as much diversity in energy resources as possible to maximize our chances of survival as the environment shifts in ways we cannot hope to predict. To truncate the development of the renewable energy sector and downgrade the value of energy efficiency may not be the wisest of policies. The confidence to do this is based on the assumption that we will not face another energy crisis. Santayana's cliche seems apposite: those who do not learn from history are doomed to relive it.

Capital markets and those who mobilize capital are basically neutral. There is very little policy or moral overtone to their activities, which in a market society is as it should be. But the capital markets themselves have become extremely sensitive and volatile. The Congress should carefully consider the interpretation of the signals it is preparing to send as it reviews the nation's tax structure. Little may be gained and much lost by placing renewable energy and cogeneration in a low priority category. I would encourage the Committee to place unregulated power projects in CCRS Class 4, where they are more appropriate, and to provide transition rules that accommodate the long lead-time commitments that must be made in connection with the financing of a power generating facility. One has to be concerned with the chilling effect of the tax legislation process on capital mobilization. The process may be even worse that Macbeth's concern that life is "full of sound and fury, signifying nothing." Perpetual proposed tax revisions are likely to have an overall chilling effect on financing.

The German statesman Otto von Bismarck recommended that you shouldn't watch certain things being made. Among these he included sausage and legislation. The confusion over the character and timing of changes in the tax law has made it increasingly difficult to mobilize capital. A much earlier political philosopher, Lao Tzu, had a slightly different recommendation. In the 5th century B.C., in the Tao Te Ching, the origin of Taoist thought, he suggested with respect to governing: "Do that which consists of taking no action, and order will prevail." That option is not realistic in today's context. Some major revision of the tax code is likely to emerge. Hopefully it will be done in such a way that the initial momentum to mobilize capital for renewable resource and energy efficient projects will not be completely lost. Extinction of an energy option is not likely to be in anyone's long run interest.

APPENDIX A

NATIONAL HYDROPOWER ASSOCIATION
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M. Elaine Evans
Northeast Hydropower Coalition

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Testimony of

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Before the

UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON WAYS AND MEANS

June 18, 1985

SUMMARY OF COMMENTS AND RECOMMENDATIONS

Hydropower is a major non-polluting domestic renewable energy resource. However, hydropower projects are very capital intensive, and as such are significantly affected by the proposed modifications to the cost recovery provisions of the Internal Revenue Code. The Capital Cost Recovery System proposed in the President's tax plan will eliminate the tax neutrality which currently exists between non-regulated energy investments and other capital investments, and will instead introduce a tax bias against investment in unregulated hydropower and other alternative energy projects. NHA urges this Committee to restore tax neutrality by including unregulated hydropower projects in CCRS Class 4 instead of CCRS Class 5.

The President's proposal would terminate the investment tax credit and would allow the energy tax credit to expire under its current terms at the end of 1985. The President's proposal retains the present hydropower transition rule, under which the credit is available through the end of 1988 for projects for which an application is filed with the Federal Energy Regulatory Commission by the end of 1985. NHA supports the retention of this transition rule, and also supports the use of this approach as a transition rule for other tax provisions, such as the investment tax credit. Finally, NHA supports the proposal in H.R. 2001 to extend the three-year transition period for an additional two years to compensate for increased delays in the licensing process.

Mr. Chairman and Members of the Committee:

My name is Granville J. Smith. I am Vice President of STS Energenics Ltd., a company that is actively engaged in the development of small scale hydropower projects, and I am a member of the National Hydropower Association (NHA). NHA is the trade association of the private hydropower industry, and its members include hydropower project developers, engineering consultants, equipment manufacturers, and other professionals serving the hydropower industry. I am accompanied by Lee M. Goodwin, a tax attorney with the Washington law firm of Wickwire, Gavin and Gibbs, and Vice President and General Counsel of NHA. I am here to talk about how the cost recovery provisions in the President's tax reform proposal affect the hydropower industry. I appreciate the opportunity to testify here today.

Hydropower is a major non-polluting domestic renewable energy resource. Hydropower development, and particularly the maximum development of small scale projects at existing dams and non-impoundment sites, can make a significant contribution to our national security and economy by diminishing our dependence on foreign oil, and by promoting employment and economic growth. Industry figures estimate that, as of the Spring of 1984, 302 projects which had been commenced after the enactment of the Public Utilities Regulatory Policies Act (PURPA), in 1978, were completed or under construction. These 302 projects represent 572 MW of capacity. An additional 444 projects, representing 947 MW of capacity, had been approved by the Federal Energy Regulatory Commission (FERC). Industry observers estimate that additional projects with a total installed capacity of 1,200 MW--the equivalent of one medium size nuclear plant--could be developed in the next five years.

However, hydropower development requires a substantial intitial investment. The cost of a hydropower project can range from $1,500 to $2,000 per KW installed for the simple retrofit of an existing dam, all the way up to $3,500 per KW installed for completely new development. This is considerably higher than the installed cost of other conventional energy technologies such as coal-fired steam turbine plants, which typically cost $1,000 to $1,500 per installed KW, and gas-fired turbines, which typically cost between $150 to $300 per installed KW. Moreover, the wide-range of stream flows at the typical site, coupled with the frequent need to discharge minimum releases for environmental purposes, means that the plant factor for the typical hydro plant is 40% to 50%, which is much lower than a typical coal plant, which may have a plant factor of up to 80%. Small scale hydropower is also not a low risk investment. Unlike electric utilities, most NHA members sell power at avoided costs established pursuant to PURPA, and they are therefore not guaranteed a minimum return on their investment. Thus, unlike regulated electric utilities, they are exposed to the same entrepreneurial risk as other unregulated businesses.

In recognition of the significant costs, benefits and risks associated with hydropower development, Congress enacted an 11% energy tax credit for small scale hydro projects in 1980. The credit is available through 1985, with an affirmative commitments extension for some projects through 1988. However, not all hydropower projects qualify for the credit, which is limited to small scale projects at existing dams and at sites which do not use a dam or impoundment. Like other business investments, non-utility hydropower projects also qualify for the investment tax credit and five-year depreciation.

Because hydropower projects are very capital intensive, the treatment of capital investments under the Internal Revenue Code is of considerable significance to the hydropower industry. Many aspects of the President's tax plan would have a direct and significant impact on capital intensive investments, such as hydropower projects. The most significant of these are the replacement of ACRS with the new CCRS depreciation system, the repeal of the investment tax credit, and the failure to extend the energy tax credit. For example, industry experts indicate that, under current conditions, typical projects which cost between $2,000 and $2,500 per KW installed are economical at an electric price of 5¢-6¢ per KWH. Under the President's plan, project cost would have to fall to $1,200-$1,500 per KW installed, which would confine development to a very limited range of sites. In the alternative, electric rates would have to rise to 7¢-9¢ per KWH, a rate which is only competitive in a very few parts of the country.

Members of the National Hydropower Association are encouraged that the Administration has recognized the special importance of energy production to this country, and NHA agrees that national security and economic development considerations demand that the tax code continue to be used to encourage domestic energy production. However, the President's energy tax proposals, which have been directed primarily at oil and gas production, have failed to give adequate consideration to hydropower and other alternative energy technologies, and could actually bias the tax code against alternative energy production. We hope that this Committee will correct this imbalance as it considers the various options for tax reform, and will provide needed encouragement for all forms of domestic energy development.

DEPRECIATION OF HYDROPOWER PROJECTS

The President's tax reform proposal would replace ACRS with a new depreciation method--the Capital Cost Recovery System (CCRS). Under CCRS, business assets would be classified in one of six CCRS categories, and would be assigned annual depreciation rates ranging from 55% per year for property in Class 1 to 4% for property in Class 6. Each class would also be assigned a specified depreciation period, ranging from four years for Class 1 to 28 years for Class 6. Electric generating equipment, including hydropower projects, would initially be placed in Class 5, and would be assigned a 17% annual depreciation rate and a ten-year depreciation period. By comparison, most other industrial equipment, with which hydro equipment must compete for investment dollars, is assigned to Class 4, with a 22% annual depreciation rate and a seven-year depreciation period.

Members of NHA are concerned that the President's proposal would eliminate the level playing field for hydropower investment which exists under current law. Under current law, non-regulated hydropower projects are included in the same ACRS category as the other non-regulated capital investments with which they must compete for investment dollars. Accordingly, as far as tax treatment is concerned, tax benefits are not a consideration in choosing between hydropower and other unregulated investments. By contrast, the President's proposal would place most items of capital equipment in depreciation Class 4, while hydropower projects would be placed in depreciation Class 5. Thus, the level playing field would be eliminated, and hydropower projects would be assigned a depreciation period which is three years longer and 5% lower than that for other capital investments.

Because capital investments are evaluated on the basis of their internal rate of return, using a present value analysis, investment decisions are most heavily influenced by the return during the early years of the investment. Accordingly, the proposed differentiation in tax treatment between hydropower projects and other capital investments will create a bias against hydropower investments. Moreover, this bias is not fully compensated for by the inflation adjustments built into CCRS, since those adjustments only compensate for inflation, and do not compensate for the real cost of capital over time. NHA feels that, given the critical importance of energy to this country's economic health and national security, the creation of a tax bias against investment in hydropower projects at this time is highly inappropriate.

The President's proposal places non-utility hydropower projects in the same depreciation category as projects developed by regulated utilities, even though the investment considerations of regulated and unregulated electric producers are very different. A public utility's investment decisions are dictated primarily by the pattern of electric demand within the utility's service territory. Because regulated electric utilities are guaranteed a return on their investment, the tax consequences of their investments do not play nearly as significant a role in utilities' investment decision-making as they do in the investment decisions of unregulated companies, which must compete with other unregulated investments for capital. Because of this difference, electric utilities have traditionally been assigned a lower depreciation rate than non-regulated electric producers.

Under current law, hydropower and other unregulated electric power producers are included in the five-year ACRS category, while public utility generating equipment is included in the ten- or fifteen-year ACRS categories. Hydropower developers believe that this treatment is appropriate, and that unregulated hydropower projects, which are exposed to the same entrepreneural risks as other business investments, should continue to be accorded depreciation treatment comparable to that accorded other unregulated investments, and should not be treated the same as regulated utility investments. Accordingly, NHA urges this Committee to revise the proposed Capital Cost Recovery categories to include hydropower projects which are not classified as public utility property under current law in Class 4 rather than Class 5.

TRANSITION RULES

The President's proposal would not extend the energy tax credit and would instead allow the credit to expire under its current terms at the end of 1985. The proposal would allow the existing law transition rule for hydropower projects to remain in effect. Under this transition rule, the credit is available through 1988 for projects for which an application is filed with FERC before the end of 1985. This transition rule was enacted because hydropower developers invest considerable sums in bringing a project to the point at which an application can be filed with FERC, but cannot commence project construction until after FERC has completed its frequently lengthy review process. Hydro developers are continuing to spend substantial sums to develop projects which will be completed after the end of 1985 but before the end of 1988 in reliance on the continuation of this transition rule, and NHA certainly hopes that this aspect of the President's proposal will be reflected in the final measure recommended by this Committee. Moreover, NHA urges that, as this Committee considers appropriate transition rules for other provisions of current law which affect hydropower projects, including the repeal of the investment credit and ACRS, the Committee give careful consideration to adopting these same transition rules for those provisions in the case of small scale hydropower projects.

Finally, NHA hopes that this Committee will give careful consideration to the provisions of H.R. 2001, the Renewable Energy and Conservation Transition Act of 1985, which pertain to hydropower. Unlike other technologies, H.R. 2001 would not extend the basic 1985 expiration date of the credit for hydropower projects. However, it would extend the transition period currently allowed for hydropower projects for two years, through the end of 1990, for projects for which an application has been filed at FERC by the end of 1985. This extension is appropriate because the regulatory delay associated with hydropower project development has increased considerably since the credit was first enacted.

In 1980, when the credit was enacted, Congress reasonably expected that a project for which an application was filed by the end of 1985 could in fact be approved by FERC and constructed in three years, by the end of 1988. Under current circumstances, it is questionable whether the processing of an application filed by the end of 1985 can even be completed by FERC within the three-year period, much less that the project could be constructed within that period as well. Recently, for example, FERC adopted a Cluster Impact Assessment Procedure for reviewing the cumulative impacts of hydropower projects, which will extend the period for the processing of FERC applications for projects subject to that procedure by as much as one and one-half years. Accordingly, the two-year extension included in H.R. 2001 will not, as a practical matter, extend the credit to projects which were not originally intended to qualify for the credit when it was enacted in 1980. To the contrary, it is necessary to ensure that those projects will in fact be able to take advantage of the credit under current licensing conditions.

CONCLUSION

NHA appreciates the opportunity to appear and testify in front of this Committee. NHA appreciates that this Committee has a herculean task in front of it as it evaluates the various options for tax reform, and NHA is prepared to work with this Committee in any appropriate way to ensure that issues affecting hydropower development are fairly and appropriately addressed.

STATEMENT BY PETER BLAIR, PROJECT DIRECTOR, ENERGY AND MATERIALS PROGRAM, OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, WASHINGTON, DC

Mr. **Blair**. Thank you, Mr. Chairman. I thank you for the opportunity to share with your subcommittee some of the findings of OTA's new study, "New Electric Power Technologies: Problems and Prospects for the 1990's." This study was originally requested by the House Science and Technology Committee, and in the course of our analysis we examined the relative effectiveness of alternative public policy mechanisms for stimulating innovation and accelerating commercialization of new technology in the electric power industry.

Among the mechanisms we considered were alternative tax incentives. The purpose of my testimony today is to really report on that analysis as it relates to this hearing.

Over the last decade, the environment within which the utilities have made investment decisions has changed from a stable and seemingly predictable forecast of past trends to a highly uncertain and complicated maze of interrelated economic, regulatory, and technology decisions.

Now, flexibility in accommodating unanticipated changes in demand, capital costs, interest rates, environmental regulation, and a host of other factors, is a key consideration in power system planning by electric utilities.

In particular, they now consider a much broader range of strategic options, including increased attention to smaller scale power production.

It is this option that is the principal target of tax policy designed to promote electric energy innovation. Many new technologies offer the kind of flexibility utilities are seeking and have other attractive features as well, including environmental quality and fuel flexibility.

At the current rate, or perhaps as the Secretary put it earlier pace of development, however, most promising new technologies, including the renewables, fluidized bed, the IGGC that you mentioned earlier, will not really be in a position to contribute to meeting potentially accelerating load growth in the 1990's. With this potential of accelerated load growth in the 1990s, Congress may consider the prudence of a national policy decision to invest in insurance of the market availability of an array of generating technologies that provide greater flexibility in meeting load requirements. The question is, of course, who will shoulder this insurance investment?

Central to designing a Federal policy to stimulate development, demonstration, and deployment of new electric power technologies is determining the relative effectiveness of tax subsidies in stimulating innovation—that is, relative to other mechanisms for implementing such a policy.

To date, along with direct support for research and development, an important component of the Federal program for new generating technology commercialization has been support through tax subsidies. A case in point, of course, is the current system of renewable tax credits, which have been an important contributor to the

Federal policy of supporting the infant renewable energy industry. Our analysis shows that both the renewable tax credits as well as recovery of full utility avoided costs under PURPA by nonutility power producers have been crucial to the initial commercial development and employment of wind and solar power technologies.

In particular, with declining direct Federal support for renewable technology development, the renewable tax credits have supported development of innovative designs as well as commercial application of mature design.

At the same time, there are instances where the tax credits have prompted installation of inferior technology that has little possibility of commercial success.

The future of nonutility applications is closely tied not only to Federal tax policy but also to trends in avoided costs and other provisions established by PURPA. If favorable tax treatment ceases at the end of 1985, however, development of much of the domestic renewable industry may be delayed significantly. In particular, without existing incentives, many of the generally small firms involved in development projects will lose access to sources of capital.

There have been a number of proposals placed before Congress that seek a gradual phasing out of the renewable credits, and OTA is now analyzing these proposals, including the production tax credits.

The evidence supporting the relative effectiveness of tax credits for stimulating investment in the utility industry itself is not as compelling as the nonutility case. The difference is mostly explained by differences in utility accounting practices. Other actions than tax preferences might be more effective for stimulating development in the utility industry.

Finally, in sum, for the case of the nonutility power production, tax credits have proved to be important to accelerated development and deployment. Without some form of continued favorable tax treatment, development in much of the industry may be delayed. Development of some technologies, in particular, wind, will continue at a slower pace; but the development of others is likely to move overseas.

Thank you.

Senator WALLOP. Thank you, Mr. Blair.

[Mr. Blair's written testimony follows:]

TESTIMONY OF PETER D. BLAIR
PROJECT DIRECTOR, ENERGY AND MATERIALS PROGRAM
OFFICE OF TECHNOLOGY ASSESSMENT

before

Subcommittee on Energy and Agricultural Taxation
Senate Committee on Finance

June 21, 1985

Mr. Chairman,

Thank you for the opportunity to share with your subcommittee some of the findings of the Office of Technology Assessment's study, New Electric Power Technologies: Problems and Prospects for the 1990's. This study was requested by the House Science and Technology Committee to examine current and future cost and performance characteristics of a range of new electric generating technologies and load management, and their potential for contribution to the nation's electric energy resource in the 1990's. In the course of our analysis we examined the relative effectiveness of alternative public policy mechanisms for stimulating innovation and accelerating commercialization of new technology in the electric power industry. Among the mechanisms considered were alternative tax incentives. The purpose of my testimony today is to report on that particular part of our analysis.

THE ELECTRIC POWER INDUSTRY IN THE U.S.: THE CURRENT POLICY CONTEXT

The decade of the 1970's was a period of unprecedented change in the U.S. electric power industry. Beginning with the Arab oil embargo, the environment within which utilities made investment decisions changed from a stable and seemingly predictable forecast of past trends to a highly uncertain and complicated maze of interrelated economic, regulatory, and technology decisions. As utilities face the 1990's and continued highly uncertain load growth, the experiences of the 1970's have caused them to become much more sensitive to the financial risk of overbuilding large, central station generating capacity, and have forced them to reexamine their traditional business strategies.

Flexibility in accommodating unanticipated changes in demand, capital cost, interest rates, environmental regulation, and a host of other factors is a key consideration in power system planning by electric utilities. In particular, utilities now consider a much broader range of strategic options including life extension and rehabilitation of existing generating facilities, increased purchases from and shared construction programs with neighboring utilities, diversification to non-traditional lines of business, increased reliance on load management and conservation activities, and, finally, increased attention to smaller scale power production from a variety of both conventional and alternative energy sources.

It is this last option that is the principal target of tax policy designed to promote electric energy innovation. These technologies--including solar thermal, wind, photovoltaics, geothermal, atmospheric fluidized bed combustion of coal and other fuels, and others--offer the kind of flexibility utilities are seeking, and have other attractive features as well concerning environmental quality and fuel flexibility. At the current rate of development, however, most new technologies will not be in a position to contribute to meeting load growth in the 1990's.

If load growth should accelerate, the interest in conventional and developing technologies that offer the flexibility of short lead times, and modular design features, as well as the long-term promise of cleaner, more efficient utilization of abundant coal resources, might sharply increase. As a result, it may be a prudent national policy decision to invest in the "insurance" of the market availability of an array of generating technologies that provide greater flexibility for meeting load requirements. The question is, of course, who should shoulder this insurance investment?

STIMULATING INNOVATION IN THE ELECTRIC POWER INDUSTRY: WHO PAYS?

Electric utilities on average currently spend less than one percent of gross revenues on research and development (R&D), considerably less than most other capital intensive industries. This figure includes their support of the Electric Power Research Institute. Electric utilities point out that, with the exception of nuclear power, equipment manufacturers and vendors have traditionally carried the principal burden of R&D for the power industry. But, with the decline in new equipment orders in recent years, manufacturers are less likely to commit R&D to new products for which strong markets are very uncertain. As a result, if R&D activity in new generating technologies is to continue, at least a portion of the burden will probably have to shift to the utilities themselves. As pressures on utilities to consider new technologies mount, how public utility commissions treat cost of research, development, demonstration and of early commercial applications is a pivotal issue.

While utility investment in new electric generating technologies in the United States is relatively small, the number of non-utility investors, generating power under the provisions of the Public Utility Regulatory Policies Act (PURPA) of 1978, have increased rapidly in the last few years. Increased availability of natural gas coupled with supportive regulatory treatment provided by PURPA and tax incentives for cogeneration and small-scale power production have led to considerably increased activity in non-utility generation in some regions, particularly those of highest load growth and fuel cost (the West and Southwest). This reemergence of non-utility power production as a growing industry in America is providing and can continue to provide an important test bed for some of these new generating technologies. While much of this investment has gone into cogeneration to date, in some utility service areas (e.g., in California) the rate of growth of new generating technologies is steadily increasing.

The degree to which non-utility investment in new generating technologies (and load management) affects the total generation mix is also an important ingredient in the future of the U.S. electric power system.

Tax Policy as a Mechanism for Stimulating Innovation

In our view, the long term security of electricity supply and health of the electric power industry is linked to the ability to employ new technology in response to the financial, regulatory, and other pressures that the industry now faces. Central to designing a Federal policy to stimulate development and deployment of new electric power technologies is determining the relative effectiveness of tax subsidies in stimulating innovation. In particular, tax subsidies should be evaluated against other mechanisms for implementing such a policy.

Tax subsidies can be implemented along two basic dimensions. First, benefits can be awarded either on the basis of front-end expenditures--an investment tax credit--or on the basis of energy output--a production tax credit (PTC). Second, tax credits can be awarded on a technology-specific basis--as in the Renewable Energy Tax Credits (RTC)--or on a technology-neutral basis--as in a research and development tax credit.

Many economists argue that the most economically efficient tax subsidy is output or production oriented and technology-neutral. That is, the subsidy should be awarded on the basis of energy produced regardless of the technology employed, thereby reducing the possibility of artificially supporting inferior technology. From a policy perspective, however, the motivation for a technology-specific incentive might not be sufficiently captured in traditional measures of economic efficiency (e.g., environmental benefits or the desire to encourage fuel diversity or reduce import dependence for security purposes). Similarly, output-oriented subsidies, while certainly providing incentives for production, may discourage testing of innovative designs relative to front-end oriented subsidies.

In this light, it is important to highlight the difference between tax policy used as an operating subsidy, e.g., to stimulate production of targeted energy resources, and tax policy used to stimulate innovation, i.e., to commercialize new technology. The former is mired in the "level playing field" debate and goes far beyond tax policy alone in assessing the relative effectiveness, economic efficiency, and policy motivation for offering or not offering such subsidies. The latter is usually envisioned as a short-term means for bringing a new technology to maturity, at which time the subsidy would be withdrawn. Among a host of other mechanisms, both kinds of subsidies have traditionally been implemented through the tax code as tax credits or accelerated depreciation allowances. To date, along with direct support for research, development and demonstration projects, an important component of the Federal program for new generating technology commercialization has been support through tax subsidies.

As a case in point, part of the scope of OTA's assessment was to examine the role the Renewable Energy Tax Credits (RTC's) have had on the initial commercial development of renewable electric generating technologies and what the prospects for continued development of these technologies might be without the RTC's or under a modified tax incentive mechanism such as a PTC or a gradual phase-out or the RTC.

Renewable Energy Tax Credits

The RTC's have been an important contributor to the Federal policy of supporting the infant renewable energy industry.[1] While the RTC's have been in effect since 1978, they have only been utilized to a significant degree since 1981 for electric power projects and are only applicable to non-utility applications. Our analysis shows that both the Renewable Energy Tax Credit (RTC) and recovery of full utility avoided costs (PURPA) by non-utility power producers have been crucial in the initial commercial development and deployment of wind and solar power generating technologies. In particular, with declining direct Federal support for renewable technology development, the RTC has supported development of innovative designs as well as commercial application of mature designs.

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[1] The Energy Tax Act of 1978; the long term "support of an infant industry" motivation for the renewable energy credit was quite different from the sister tax credit for conservation which was motivated by the short term objective for encouraging energy conservation.

For wind projects, in particular, the credits seemed to have spurred development significantly for two reasons:

(1) With the tax credits, projects with design specifications using current cost and performance technology yield competitive rates of return for prospective investors, particularly in California where state tax credits and high PURPA avoided cost rates are additional incentives. Even if the design specifications for a prospective project are not realized, as has been the case for a large number of first generation wind projects, the tax benefits alone associated with these projects, many of which were initiated to test innovative designs, have been sufficient to attract considerable investment interest. This has been particularly true for investors with income from other investments.

For example, using OTA's cost and performance estimates for new generating technologies in the 1990's, the cumulative effect of tax benefits--including accelerated depreciation allowances (ACRS), investment tax credits (ITC), and renewable energy tax credits (RTC)--shows that wind turbine as well as geothermal projects are attractive investment opportunities under all reasonable cost and performance scenarios. Photovoltaics become competitive under the "best case" cost and performance scenario. Some of the details of this analysis are illustrated in the attached figure 1.

(2) While the first generation wind projects in California generally did not perform well, they served as the "test bed" for small wind machines (less than 200 KW) that have not beer supported by the Federal research and development program. Indeed, the wind industry is currently moving from these first generation small machines to medium sized machines (200-1000 KW) as the technology matures.

The role of the RTC in accelerating commercial development seems to have changed from its original design, at least for the technologies considered in this assessment. The original Federal policy was to provide direct research support to develop the technology and the RTC to accelerate commercial deployment. With decreased Federal research and development support, the RTC appears to be supporting research and development in the field as well as commercial development. At the same time, there are instances where the RTC has prompted installation of inferior technology that has little possibility of commercial success.

These instances have brought about criticism of the RTC's, particularly for wind, that has resulted in proposals for an alternative PTC that would award the credit based on energy generated rather than the initial investment. These critics have argued that support of innovative designs is not the intent of the credits. Indeed, a PTC would discourage investment primarily oriented toward exploiting tax benefits. Moreover, it would insure that whatever investments are made would be done so for energy production purposes. A PTC, however, may be difficult to monitor, particularly in non-grid connected applications. In addition, while PTC's may ensure better performance, it may slow technology development and commercialization since investors would be less likely to test innovative designs. Another implication of the PTC, compared with the RTC, is that it favors technologies in base load duty cycle applications (with higher capacity factors) such as geothermal and penalizes those in intermediate and peaking applications such as wind or solar. The tradeoffs between PTC's and RTC's are illustrated by comparing figures 2 and 3.

The future of non-utility applications of new generating technologies is closely tied not only to Federal tax policy but also to future trends in avoided cost (and other provisions established by PURPA), and fuel availability and cost. If favorable tax treatment ceases at the end of 1985, development of much of the domestic renewable power technology industry may be delayed significantly. In particular, without existing tax incentives, many of the generally small firms involved in development projects will lose access to existing sources of capital. Even large, adequately capitalized firms may lose their distribution networks, leaving the industry struggling to survive. Only the most mature, best financed renewable technologies in the best resource locations would most likely be deployed through the 1990's. In those regions where high quality resources exist, however, they could be important contributors to both new and replacement generating capacity even without a specific subsidy.

There have been a number of proposals placed before Congress that seek a gradual phasing out of the RTC rather than their currently scheduled sudden termination at the end of 1985. OTA is now analyzing these proposals.

Tax Credits for Electric Utilities

The evidence supporting the relative effectiveness of tax incentives for stimulating investment in the electric utility industry itself is not as compelling as the non-utility case. For example, the decrease in the levelized per KWh busbar cost for the renewable technologies considered in OTA's assessment, with a 15 percent tax credit over and above the existing tax benefits currently afforded to utilities, is less than ten percent for all cases (see table 1). The relative lower effectiveness is mostly explained by utility accounting practices which spread the benefits of the tax credit over the life of the facility rather than offering a substantial front-end incentive.

Other actions than tax preferences for stimulating development in new technology within electric utilities may be more effective. For example, such actions might include the availability of PURPA Section 210 benefits to electric utilities, actions by public utility commissions to provide greater research, development and demonstration support through electricity rates, and removal of the Powerplant and Industrial Fuel Use Act (PIFUA) restrictions on the use of natural gas. All of these steps could increase the rate of deployment of developing generating technologies, but their other effects have to be carefully reviewed before and during implementation.

CONCLUSIONS

In the case of non-utility electric power production, tax credits have proved to be quite important to accelerated development and deployment of early commercial applications of renewable electric power generating technologies. Without some form of continued favorable tax treatment, development of much of the domestic renewable power technology industry may be delayed significantly. Development of some technologies--in particular wind turbines--would probably continue at a slower pace, and leadership in the development of others would likely move overseas.

Finally, while it is clear that tax incentives for accelerating development of new technologies have been very successful in non-utilities, the evidence favoring offering such incentives to the utility industry itself, compared to other mechanisms for encouraging development, is less compelling. Regardless of what incentives are made available to electric utilities, however, if continued development is desired for the remainder of this decade, some form of favorable tax treatment for non-utility investors is likely to be necessary.

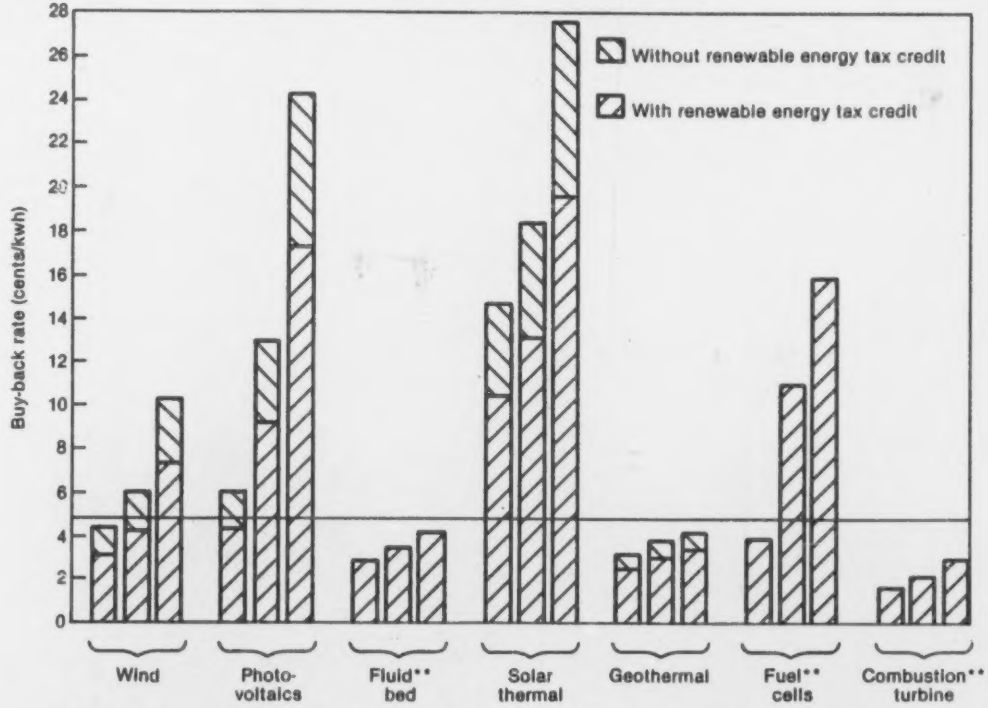
Table 1
Impact of RTC's on Sample Utility Busbar Costs
(cents per kilowatt-hour)

	Without RTC	With RTC
Geothermal	7.41	7.23
Solar-thermal	17.26	16.28
Photovoltaics	20.52	18.83
Wind	7.13	6.63

*Assumes "most likely" cost and performance estimates from U.S. Congress, Office of Technology Assessment, New Electric Power Technologies: Problems and Prospects for the 1990's (Draft), June 1985.

Figure 1

Breakeven Utility Buy-Back Rates



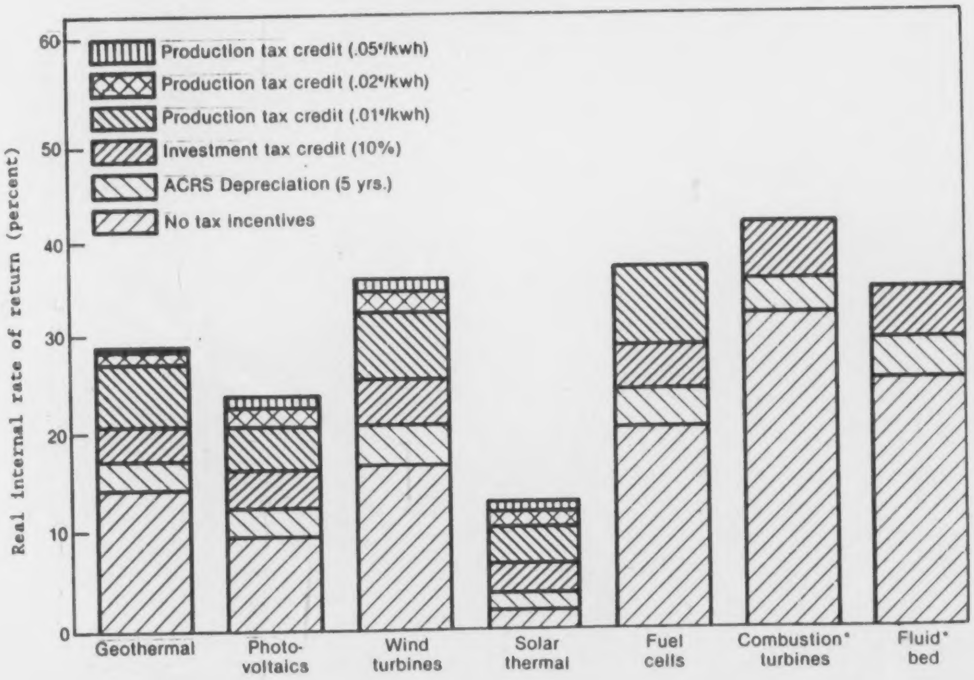
* Reported for each technology with "best case," "most likely," and "worstcase" estimates of cost and performance for the reference years defined in Chapter 4; basic economics assumptions are given in Chapter 8 chart shows buy-back rates necessary to generate a 15% real rate of return on investment.

** In cogeneration applications.

Figure 2

Tax Incentives for New Electric Generation Technologies: Cumulative Effect on Internal Rate of Return

(Best Case Cost and Performance: Production Tax Credits)

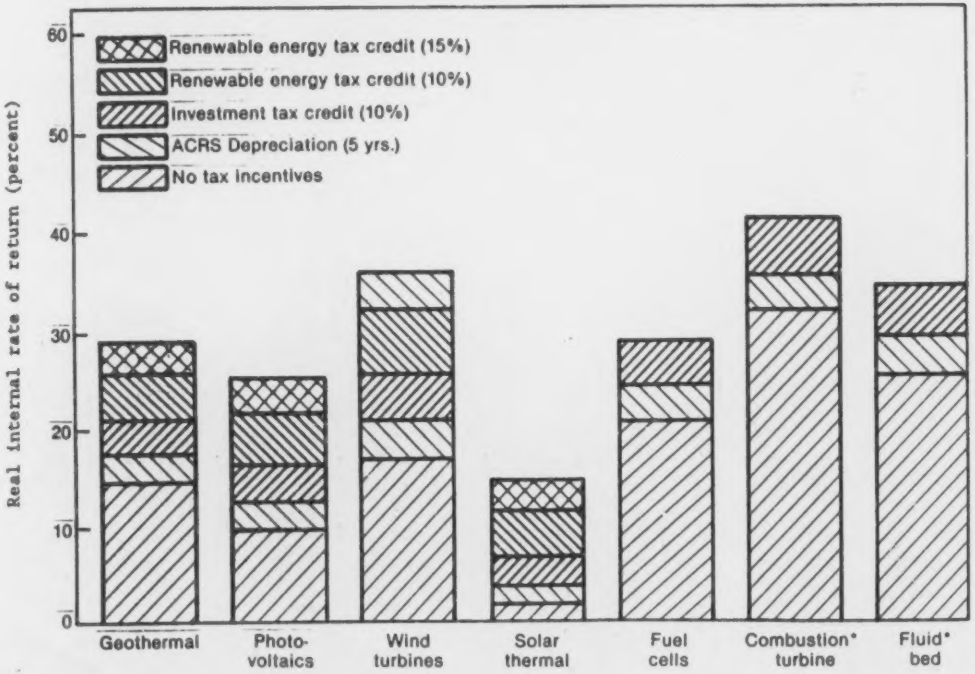


*In cogeneration applications.

Figure 3

Tax Incentives for New Electric Generation Technologies: Cumulative Effect on Internal Rate of Return

(Best Case Cost and Performance: Renewable Tax Credit)



*In cogeneration applications.

Senator **Wallop**. That is more than passingly interesting testimony.

Lloyd, let me ask you, have you ever heard of an oil and gas tax shelter which allows more than a 1-for-1 writeoff?

Mr. **Unsell**. I have read about those in the paper, but I don't know of anyone who experienced that. I noticed Mr. Morgan on the earlier panel talking about independent producers paying no taxes. I can assure you, also, that since the depletion and the excess IDC's were included as so-called preference items under the minimum tax, I haven't found an independent producer who has not paid taxes, except occasionally one who has massive losses that exceeded income, and that's true of most industries.

I would like also to second what Mr. Huyck said here about the need for stability. I am running into more and more people who say the good old days were those distant years past when Congress dealt with revenue bills every 6 to 8 years; now you have 1 every year, and literally billions of dollars go into economic purgatory or limbo while people are making up their minds what the Congress is going to about it.

Senator **Wallop**. And they go into lawyers and accountants to find out. [Laughter.]

Mr. **Unsell**. You know, the Wall Street Journal had an interesting lead article on Wednesday about the very large projects that have been canceled, some of them where contracts had been signed. People just pulled out of them simply because this tax thing is laying on the table. They didn't have anything on oil, but I went back and checked the timeframe from December 1 to June for the last 25 years, and this is the first time, after the introduction of Treasury I, from that point until June, we have stacked 39 percent of the drilling rigs that were operating on the first of December. That has never happened before in the history of this industry, and I certainly do not believe it is just coincidental.

Senator **Wallop**. I guess the point of my question was that the IDC's production really comes from spending an equal amount of money in the search for oil and gas. That is what it was designed to do, nothing more sinister than that.

It would be fine if somebody could point out to me where you could get a 1-to-1 or a 2-to-1 return, but I just don't know how that would be concocted.

Mr. **Unsell**. The other thing I have found most people don't understand is that oil intangible drilling costs are spent in advance of the casing point. Once you have a completed well, everything you do from then on is installation of tangibles, of pumping equipment, pipe down the holes, gathering lines, storage tanks, separation equipment, all of that is amortized for tax purposes just like any other business.

Senator **Wallop**. I can tell you, I spent 1 year of my life in which I paid no taxes, and it was the most accursed year I ever spent, and it was for a perfectly legitimate reason—I lost a bunch of money.

Mr. **Huyck**. No income is the ultimate shelter.

Senator **Wallop**. Yes, no income. And I never thought it was particularly unfair that I didn't have to pay tax; I would have been overjoyed, and so would my banker, had I been able to pay tax.

Mr. HUYCK. Senator, can I ask you a question about the writeoff issue?

Senator WALLOP. Fine.

Mr. HUYCK. What often happens in these tax shelters, many of them unscrupulous, is that a minimum amount of equity is put in. A lot of debt is borrowed based on letters of credit from the investor. He'll put in a dollar in a $100 project—I am exaggerating for illustration—and sign a letter of credit for a substantial additional amount, and he gets a big writeoff on his cashin, and he is looking at a 4-to-1 writeoff, or whatever, because the tax benefit is associated with his exposure. And he is later told when the letter of credit is called and he has to put additional equity in that he was really exposed for that, and he is often surprised, or has been surprised. So these big writeoffs are usually geared to leverage and to the actual cashin as opposed to the ultimate exposure.

Senator WALLOP. Of course, but that is not unique in the tax treatment of Americans as a whole.

Mr. HUYCK. No. Leverage is what investment banks do with great skill and great frequency.

Senator WALLOP. But what happens is, and I can speak from a certain amount of experience, that when they finally say, "Guess what? You didn't find anything. And I want your letter of credit—thank you very much—performed upon," that's tough, especially when you have anticipated being John Paul Getty and have spent all the money. It doesn't work that way.

Mr. Keating, let me take you down a short road of suppositions and suppose that the Congress were to enact the President's proposals, and coal mining slowed to adjust for the increased cost of capital, which the Treasury admitted would be the case today. Then assume somewhere we have a national energy emergency which dramatically increases the demand for coal. Tell me what would the industry's time response be if, say, you had to replace 5.5 million barrels of oil a day, which is not an inconceivable concept.

Mr. KEATING. I would say, because of the permitting requirements that are either promulgated under the Surface Mining Act or other Federal or State regulatory permitting requirements, the timeframe would be in the 5- to 7-year range.

Mr. HUYCK. Senator, you are going to have to burn the coal. Coal in and of itself doesn't solve the problem.

Senator WALLOP. Well, I understand that.

Mr. HUYCK. The powerplant does so.

Senator WALLOP. But if it is going to take 5 to 7 years to get it, the thrust of my question is——

Mr. KEATING. For example, in the case of fuel switching, because of the embargo in 1974, Atlantic City Electric, which was one of our customers, was burning oil and was able to switch fuels readily because the coal industry was in a recession and excess capacity was available, as it is today. But if the trend continues in the industry, and demand and supply come into balance in the next couple of years, a utility could not go into a fuel switching situation. The coal will not be there for 5 to 7 years.

Senator WALLOP. My hypothetical assumes that the slowdown in capital expenditure would make more likely rather than less likely the fact that supply and demand were to come into balance within a couple of years. If you are not investing in new productive capacity, more efficient productive capacity, either one, then that sort of accelerates the time when the producible supply comes into some sort of equilibrium with demand. I am not assuming—although I don't know why not, I think one could—we would have an energy crisis within the next year, I am assuming that those events are jelling but not here.

Mr. KEATING. What we are having is an effect, in the sense that today the utilities are being critized by the commissions for having long-term contracts, so everybody wants to go to a shorter term market. When there is an increase in the demand for electricity and there is balance in the industry, it is going to take that 5- to 7-year timeframe.

Senator WALLOP. Well that is basically the thrust.

I guess the thing that has been gathered out of all of this today is, as one witness quite correctly said, that instead of leveling the playing field they have picked it upward toward the service industry and downward on the capital-intensive industries. And in an economy as broad and as complex as ours, somehow or another to find the means to equalize taxation is going to take more of an effort than just sort of eliminating a range of taxing options.

There is the national security issue, which was the reason why we structured this hearing that way. Most considerations obviously can be ignored, because they appear to be ignored. They ought not to be, of course. And all of the testimony here today has been helpful.

I don't know where it goes. I wish I had the magic wand which could make all of the investment opportunities of Americans available only to economic opportunity and nothing else as a consideration. But we are going to go a hell of a lot farther than the administration went in the tax bill in order to get that level of simplicity, or we are going to have to deal with the complexities that are described by all of you in the various views that you have of America's energy industry, whether it is oil and gas, renewables for the coal industry, or uranium, for that matter. We have a very complex set of interrelationships that maybe shouldn't have been developed but have been. And to undo that in a morning is going to be less than comfortable for our country.

So I appreciate it. And with that, I'm sure everybody's desire to get out of here is only surpassed by mine.

The committee is adjourned.

[Whereupon, at 2:03 p.m., the hearing was concluded.]

[By direction of the chairman the following communications were made part of the hearing record:]

Statement
of the
American Public Power Association
before the
Senate Subcommittee on Energy and Agricultural Taxation,
on
The Impact of the Current Federal Tax Code on Energy Production
Presented June 21, 1985

APPA is a national service organization which represents more than 1,750 local publicly-owned electric utilities throughout the United States. We welcome this opportunity to offer testimony on the impact of the current tax code on energy production.

Current tax regulations that affect the financing of municipal electric systems are an important factor in the reliable and efficient production of the nation's electric energy supply. Current Treasury regulations assist hundreds of cities and public agencies across the country in providing efficient electric energy services for themselves. In addition, these cities and agencies provide competition in the nation's largely monopolistic electric power industry.

We will briefly summarize why we believe current regulations, for the most part, are appropriate and how they function. But a discussion of current law would be incomplete without some comment on the adverse impact of certain parts of the President's May 1985 tax proposals to the congress. We will briefly note the major adverse effects these proposals would have on the nation's electric energy supply.

Impact of Current Tax Laws

The most important economic benefit of the current tax code provides the thousands of actual and potential publicly-owned electric energy suppliers is adequate access to major capital markets that are dominated by large institutions. The adverse effects of the dominance of these large borrowers are greatly mitigated by the ability of small cities to issue tax-exempt bonds. Small borrowers have problems with gaining access to capital markets not because technical factors preclude them from being efficient producers, but simply because they are small.

For example, they have problems gaining recognition from suppliers of capital and reduced bargaining power when negotiating issuance fees. In a competitive industry size makes no difference; small producers have the same access to capital markets as large borrowers. The criterion for acquiring capital is the credit worthiness of the borrower. Lowering the barriers to entry to capital markets enhances the ability of efficient small power producers to compete with large entities for financing. As a result, much needed competitive pressure is put on the largely monopolistic electric power industry. And, by definition, this competition produces efficiency.

We will now turn to the specific operation of the current law as it pertains to publicly-owned electric power suppliers. Provisions of the Internal Revenue Code of 1958, as amended, and Regulations promulgated under Sections

103 (a) and (b) allow publicly-owned electric power systems to issue tax-exempt bonds for generation, transmission, and distribution facilities, or to enter into arrangements with nonexempt persons as co-owners of those facilities. More importantly, regulations allow public power systems to enter into contractual arrangements whereby nonexempt parties agree to take or pay for a portion of the output from a facility constructed by the public system. Usually these private parties will be private investor-owned utilties or large industrial customers. However, the portion of the output that the public system may sell to nonexempt parties over the life of the facility is limited. The combined limit on take-or-pay and non-firm sales is 25 percent.

The ability of a municipal utility to sell some of the output of a plant during its early years of operation, whether on a contractual or non-firm basis, allows public utilities to provide for expected growth in their systems' electric power generation facilities in an efficient manner. For example, for a public system estimating its power needs for 1995, prudent and efficient planning necessitates that it construct facilities that would provide more than enough power for its system in 1986 or 1990, but the appropriate amount in 1995. This type of planning is traditional in the electric utility industry, and economically imperative for facilities such as electric power plants that have relatively long lead times. Selling excess capacity that is usually available during the early years of operation of a new facility is the most efficient use of the nation's electric energy system.

Adverse Impact of the President's Tax Proposals

Certain parts of the President's May 1985 Tax Proposals to the Congress would have several adverse impacts on the efficient production of our nation's electric energy supply. We will briefly summarize our assessment of major parts that directly affect the efficient supply of electric energy by publicly-owned systems.

1. One Percent Limitation on Amount of Tax-Exempt Funds that Can Be Used by Private Parties.

Interest on obligations issued by a State or local government would be taxable if more than one percent of the proceeds were used directly or indirectly by any person other than a State or local government. Generally, use of a facility financed with proceeds of tax-exempt obligations would be considered to be use of those proceeds.

This one-percent limit is far too broad. In an attempt to eliminate the excessive use of tax-exempt financing by nongovernment parties, the proposal places new restrictions on traditional government financing that will make such financing more costly. Tax policy must be tailored to meet real world economic and technical considerations, not to satisfy arbitrary notions of how the economy operates or should operate.

Most important, the one percent limit is arbitrary and ignores the basic economic and technical realities of providing electric energy from publicly-owned facilities in an efficient manner. Electric power plants take a relatively long time to build, from 5 to 10 years, and come into service in relatively large increments. While the demand for electric power in a service area may grow at an annual rate of 2 to 3 percent, it is technically impractical and economically inefficient for electric power facilities to be added at this rate.

This is not unique to the power industry. Any industry planning capacity additions based on projections of future needs will construct larger scale facilities than it currently needs, or will need over the short-run. Faced with excess capacity in the short-run prudent managers will try to minimize the amount of unused plant. In the electric power industry managers do this by selling the output from the plant in early years to other parties. This prevents resources from remaining idle and lowers the cost of electric power to all consumers. In its attempt to curb abuses of IDBs, the proposal would hamper this efficient management. As much as it would be desirable for electric power demands and power plant growth to coincide, technical and economic realities preclude this. The one percent limit ignores this simple fact.

Finally, the one-percent limit, as it applies to public power, is contrary to the proposal's stated objective of eliminating anti-competitive and distortive effects on the economy. Publicly-owned utilities provide the major source of competition to the dominant, investor-owned utilities in the electric power sector of the economy. The economic pressure that the more than 2,000 publicly owned electric utilities put on the investor-owned utilities lowers the electric rates of all consumers. Public power systems provide an effective benchmark of efficient electric utility operation against which to measure the performance of the largely monopolized electric power industry. Reducing the viability of public power operations would reduce competition in the industry, and foster the distortive effects of monopoly in the nation's electric power supply system. Such a result is particularly alarming since it appears that the net effect of other parts of the tax proposal would reduce the federal tax bill of investor-owned utilities and, thereby, enhance their economic power.

2. Prohibition on Long-Term Management Contracts

The proposal would not allow use of tax-exempt financing for facilities managed under contract by a nongovernment person for more than one year. A contract entered into by a municipal or joint agency utility with an investor-owned utility for a term in excess of a year and which provides for the cooperation of jointly owned utility plant by the investor-owned utility would disqualify the investment made to purchase that plant with tax-exempt financing.

This prohibition ignores the fact that in many instances the investor-owned utility that has a long-term contract to manage a jointly-owned project receives no additional profit on operating the facility, but merely collects from the joint owners their pro rate share of the actual costs of operation and maintenance.

In addition, an investor-owned utility would refuse to make a sale of an ownership interest in a generating unit if it meant giving up the right to operate and manage that unit which, in most instances, the investor-owned utility is the major owner of the unit. Finally, very often municipalities and joint agencies will not have the expertise to operate, maintain, and manage the generating units in which they buy an interest. The prohibition on long-term management contracts would frustrate the ability of municipalities and joint agencies from supplying power in an efficient manner and lead to the costly requirement of duplicating manpower and knowledge already available and in place.

This proposed prohibition would severely hamper the joint ownership of electric facilities, and would reverse federal policy which, through the tax laws, has encouraged joint ownership and use.

3. Restriction on Arbitrage

The proposal would also increase the financing costs of publicly-owned power suppliers by restricting their ability to earn legitimate arbitrage. There is no practical point in making arbitrage rules so restrictive that the arbitrage earnings foregone simply result in larger sized bond issues at greater cost. It makes no sense to increase the volume, expense and complexity of bond issues when there is no net benefit to the Treasury. This is what would happen in the cases of current prudent bond issues. In its attempt to eliminate arbitrage abuses, the proposal is also eliminating the arbitrage earning necessary for efficient issuances.

In addition, the proposal ignores fundamental practicalities of financing long-term construction projects efficiently. Conventional power plants can take from 5 to 10 years to build, and it is inherently inefficient and totally unreasonable to--as the proposal wants--"spend a significant part of bond proceeds within one month" and "all bond proceeds within three years". Such a restriction would mean that bond issues for a long-term construction project would have to be issued on an almost monthly basis. This would be grossly inefficient and impractical in the case of a simple homebuilder, let alone the multi-million dollar, multi-year construction of a project as complex as an electric power plant.

Utility financial managers would be effectively precluded from exercising their professional judgement in the structuring and timing of bond sales. The efficient size of a particular bond issue depends on factors such as the total cost of a project, the length of construction time, current and expected interest rates, issuance costs for various volumes, and other factors. Public power financial managers would be effectively precluded from considering these factors. Instead, they would be tied to arbitrary and unrealistic criteria of spending a significant amount of the proceeds over short time periods that have no relation to the size and construction schedule of projects.

4. Prohibition of Advance Refunding

The proposed prohibition on advance refunding would severely restrict a utility's ability to efficiently manage its debt--the way other enterprises do--to lower costs to customers. Utilities would be severely limited in their ability to take full advantage of a period of lower interest rates and, consequently, exercise sound financial management. The attempt to reduce the volume of tax-exempt bonds by eliminating advance refunding undermines local governments' right to issue tax-exempt bonds, and the basic economic benefits they derive from them. Taking away utilities' ability to manage debt efficiently adds significantly to financing costs, the main benefit utilities get from tax-exempt financing. Curtailing this benefit strikes at the very heart of tax-exempt financing.

We thank the Committee for the opportunity to offer our comments on the impact of the federal tax code on energy supply, and we will be available to elaborate on any of the points made here.

JK/tsb

Statement
of
L. D. Thomas
President, Amoco Oil Company
Submitted to the
Senate Finance SubCommittee
on
Energy and Agricultural Taxation
June 21, 1985

On behalf of Amoco Oil Company, I am pleased with the opportunity to provide our thoughts on the current situation in the refining industry to this Committee.

During and after the 1973-74 Arab Oil Embargo, the U.S. oil industry was often emotionally criticized for not having foreseen an unprecendented supply disruption and prevented it -- or at least reduced its impact. By contrast, this hearing is a recognition that a strong private sector refining industry is a vital part of the nation's total energy security. Amoco welcomes the change in perception and is happy to contribute to your analysis of this most important issue.

I would like to begin by focusing on actions and investments which refiners have taken that benefit the U.S. supply security of crude oil and products. Then I'll turn to some problems that could return the country to greater vulnerability and to supply disruptions.

Although the U.S. has seen some serious threats to supply in the past ten years, today, we face no shortages of either crude oil or products. But we haven't by any means solved the problems of continuing dependence on foreign energy.

As a realist, I believe that we can view the present adequate supplies and lower prices as a breathing space at best. But as an optimist, I believe we can capitalize on this breathing space and examine:

A) the impact of the Embargo and its aftermath;

B) the strategic steps we have taken to reduce our dependency;

and C) what we can do in the future to enhance our future energy security.

From World War II to 1973, the U.S. oil companies largely owned and produced the world's crude oil. The involvement by host governments or by the U.S. government was relatively small.

The market for petroleum products was characterized by extreme competition. Service station dealers attracted customers not only with different grades of gasolines but with premiums like green stamps, or glassware, or free road maps. "Gas wars" or price wars were a common occurrence.

Petroleum products were among the best bargains in the economy. From the middle 1950s through 1973, the price of gasoline slowly but steadily declined in real terms.

The favorable market conditions created by the private sector began to change with the involvement of various governments in the early 1970s. At first governmental involvement took the form of tougher stands in crude price negotiations. Gradually a willingness to use oil as a foreign policy weapon emerged. Ultimately, the idea of an Embargo passed from a threat to a reality. As it did so, the decisions of foreign governments were substituted for those of U.S. companies and the free market.

When the control by foreign governments over U.S. energy was made explicit during the Embargo, the domestic psychological impact was incredible.

Congress and the Administration came under tremendous pressure. They thought they had to do something — so they did. Unfortunately, instead of protecting the market from the cartel, they tried to protect the consumer from what would have been a short-term market aberration. In so doing, they made it a long-term aberration by replacing the market with a regulatory system of price controls, supply allocations bad economics... and good intentions.

Ultimately, these regulations and intentions grew to 29 volumes totaling more than 80,000 pages.

The tragedy, however, is not that whole forests laid down their lives so these rules could be printed.

The tragedy is that the regulations prevented the restoration of the balance between seller and buyer for years. In doing so, they probably did more to prop up OPEC prices than anything the Cartel could have done on its own.

Everybody on the Committee remembers the reports of the semi-annual OPEC meetings in Vienna. The oil ministers from the different countries would assemble ... debate ... and then announce the price customers would pay for the next six months. There was no input from the OPEC customers. Most importantly, the U.S. was regarded by OPEC as a captive market.

Although energy independence was the stated goal of U.S. regulations, those regulations did nothing to change U.S. consumption patterns -- and nothing to reduce imports. In fact, gasoline consumption and crude oil imports actually increased during the 1973-79 period.

Ultimately, however, the market prevailed. OPEC prices encouraged new drilling activity in non-OPEC areas. Alaskan, Mexican, and North Sea production came onstream faster than they would have otherwise.

To offset the anti-conservation impact of low prices, Congress legislated conservation tax incentives, mandated mileage requirements, and imposed stricter energy saving standards for new construction. But most importantly, gradual and then final governmental Deregulation of crude oil and gasoline prices led to more rational pricing and allocation decisions by consumers.

All of these events diluted OPEC's power and restored the voice of buyers to the marketplace. But that voice could have been restored sooner if the U.S. government had recognized the role of the private sector and the free market in bringing consumers the products they needed. That recognition was long in coming.

The logical movement toward Crude Oil and Product Decontrol and the logic of other pro-supply steps met with consistent and emotional opposition.

The clearest example of the opposition to the pro-supply strategy concerned the long industry campaign to build the Trans-Alaskan Pipeline.

The oil industry officially added ten billion barrels of oil in Alaska to U.S. reserves in 1969. But it took five years of environmental squabbling, an Oil Embargo, and an Act of Congress to even start work on the pipeline. And then it took three more years of construction to finish it -- and a total private sector investment of nearly nine billion dollars.

But consider the value of that investment to domestic supplies: Since the line came onstream, it has brought about four billion barrels of oil to the U.S. Considering the cost of the foreign barrels it replaced, the pipeline has saved $110 billion that would have otherwise gone to prop up OPEC prices outside the U.S. Last year alone, the absence of the line would have added $20 billion to our record Balance of Trade deficit.

While there is nobody who would now want to forego results such as these, initial opposition to the Trans-Alaskan Pipeline was tremendous. In fact, the line was built at a time when there were proposals in Congress to dismember the 18 largest oil companies. Yet today, we can all see the strategic benefits of a strong private sector devoting its resources to preserving and enhancing usable energy supplies.

The country has also benefitted from the massive investment in the refining end of the industry. At the time of the Embargo, the U.S. refining industry was primarily designed to handle light, low-sulfur crudes. During the Embargo some heavy, high-sulfur crudes were available but not acceptable because of the design of the refining system.

In the five years since Deregulation of domestic crude prices the refining industry has spent $19.1 billion to upgrade its refineries to handle a wide variety of different crude oils. Today, thanks to those investments, the U.S. industry is flexible enough to make a slate of high quality refined products from just about any crude oil available.

As a result, the petroleum industry has been able to process lower-grade Alaskan crudes and dilute OPEC's influence over the domestic industry. As more and more of the programs designed and begun two to three years ago come onstream, that result will be still more pronounced.

I make that point explicitly, because even though industry-favored policies have brought us our present breathing space, they haven't brought us total future security. The U.S. marketplace itself isn't completely out of danger.

OPEC countries see they have lost the leverage they once had over the marketplace. They would like to regain it. Given the present crude glut -- in which OPEC's free-world market share has fallen from about 60 percent to about 35 percent -- there seems to be an effort to concentrate on downstream -- or refining -- gains. Cash-rich OPEC countries are building EXPORT refineries at a time when about one/fourth of world-wide refining capacity is going unused.

Such a move is logical for a number of reasons:

One, it would provide product diversification for a crude-oriented economy.

Two, building, and to some extent, operating refineries would provide jobs by refining the crude where it's produced.

Three, it would add value to a potential plant fuel like natural gas which presently has no value where it's produced. Right now, it's frequently flared or re-injected into the well formations.

Four, it would permit countries trapped by quota agreements to disguise overproduction or cut-rate pricing with product sales.

And five, it's not completely cynical to think they might manipulate product prices to replace the political power they have lost over crude oil supplies.

But whatever reasons might motivate a country to integrate downstream for product exports, we should also consider what would motivate against such investment. Traditional economic logic for exporting to existing markets calls for markets characterized by:

A) A price/value differential -- like the one that made the U.S. auto market attractive.

B) Antiquated plants or high-cost labor -- conditions that made the steel industry vulnerable.

C) Inability to meet needs from domestic production -- as is the case with some minerals.

But the U.S. market for refined product is not characterized by any of those traditional criteria:

A) There is no significant price/value differential in refined petroleum products. The average wholesale gasoline price dropped from $1.04 at Decontrol in 1981 to about 78 cents a gallon today. Instead of dropping, if the wholesale gasoline price had merely matched inflation, it would be at $1.30 today which would mean you would pay about $1.75 at the pump.

B) Our product market is not characterized by antiquated plants: As I mentioned, refiners have upgraded their facilities with $19.1 billion in investment. Amoco alone has spent about $1.5 billion.

C) There is no shortage of domestic facilities. Product demand decreased between 1979 and 1983. Over one hundred refineries have closed and the remainder are still operating at only about 75 to 78 percent of capacity.

D) Finally, most companies have shrunk their marketing areas to those where they have some transportation or other edge that will make them more competitive than ever.

These are not the conditions that tempt a businessman to go half way around the world to compete. And I don't think a businessman would do so if he expected to:

pay the same taxes;

AND pay the going price for crude oil and plant fuel;

AND make a return to shareholders;

AND meet the same environmental restrictions;

AND pay the same shipping costs.

But I'm not sure we can expect the same behavior from sovereign governments which own the resources of their countries that we can from independent businessmen. In other commodities, we see government ownership has led to policies based on currency needs, or domestic employment policies -- at the expense of rational pricing behavior abroad. There are international treaties against the more extreme forms of these policies.

Would OPEC governments make anti-marketplace decisions about products that follow government patterns in pricing other commodities?

Point number one, I guess, is that they have manipulated crude oil prices for the last 12 years to the extent they could. I don't know why they would do differently with refined product.

Point two is the international refining situation today:

4 to 4.5 million barrels a day of excess capacity in Europe;
2 million in the U.S.;
1.5 to 2 million in Japan;
another 2 million a day in places like Singapore and the Caribbean;
Or 10 to 12 million barrels of excess capacity in all.

It would take very special justification for any private sector businessman to justify massive construction programs for new capacity under these conditions. For example, it would take an enormous increase in projected demand. But projected demand growth among industrialized and Third World countries is not expected to exceed 4 to 5 million barrels by 1990. And yet, OPEC countries -- in the face of 10 to 12 million barrels of excess capacity -- are adding another 2.5 million barrels to their systems.

If traditional economic logic won't justify this investment, then what does justify it?

Possibly a low cost structure based on low transfer prices of raw materials and plant fuels. Possibly state of the art refineries. Possibly low-cost labor. Maybe different Governmental restrictions: they have no EPA restrictions; no Jones Act for shipping to American ports; and none of the Crude Oil Equalization Taxes and the like enacted since the Embargo.

Why would foreign production come to the U.S. as opposed to other importing countries?

Two reasons: One, we have about one/third of the world's oil demand here -- and, two, we have the world's soundest currency. Nobody else offers this combination of market and money.

Third World countries would be considerably less attractive trading partners. Places like Japan and some European countries which restrict imports would be less attractive still. Unless we can work out some arrangement for other countries -- such as Japan -- to take their fair share of the increasing product exports, U.S. refiners will receive an unfairly heavy impact in competition in domestic markets.

Foreign competitors would have other advantages too: For example, U.S. refining hasn't been able to earn a satisfactory return on investment for several years. As I mentioned, utilization rates are well below profitable levels.

In addition, foreign competitors would have an advantage with plant fuel -- the largest refinery cost after crude oil itself. Amoco is one of the largest refiners in the U.S. In 1983 our bill for plant fuel came to over $700 million -- or about five times our operating profit that year.

If otherwise unused natural gas could be diverted to plant fuel at its Persian Gulf value, it would be difficult for any U.S. refiner to compete.

In other words, whatever OPEC's rationale in building unnecessary refineries, they have the resources to make them successful -- even if that requires subsidization through a protracted price war.

I have dwelled on the dangers to the U.S. refining system because I think there are definite strategic issues at stake.

First of all, the U.S. possesses a great many world-class refineries. From the standpoint of high-valued gasoline and diesel-fuel products, even our poorer refineries are better than many good ones elsewhere.

As I mentioned, our system has been upgraded by tremendous expenditures to be able to deliver products to U.S. customers from any crude oil available. This system would be jeopardized.

Second, our Strategic Petroleum Reserve now has nearly 500 million barrels of crude oil. It was built on the assumption that we would have a strong refining sector to process that crude in an emergency. A weakened U.S. refinery system would negate much of that SPR advantage -- and in fact, in view of recent closings, the U.S. system is already down to minimal projections for utilizing SPR oil efficiently.

If there were product embargo -- and if the U.S. wanted to maintain a consistent 16 MMB/D which we are currently using -- we would need to have about 15 MMB/D of capacity operating at 90 percent. We're almost down to that now. We opened 1985 with industry refinery capacity reported optimistically at 16.1 MMB/D. Now that's down to 15.6 MMB/D. And we expect it to be at 14.9 by the end of this year. Continued refinery closings could result in insufficient U.S. capacity for processing SPR crudes.

The third strategic issue is that domestic refineries mean security of product supply. Middle Eastern refineries would be within easy reach of terrorists and suicide squads.

Fourth, our supply lines -- as distinguished from supplies -- are here. In World War II, we diverted effort from the War to build product lines onshore because German U-boats were sinking coastal tankers. Today, there would be less problem defending our own coasts. But the tactical and strategic problems in defending supply lines stretching from Persian Gulf refinery gates would require an enormous commitment. I don't see Congress or the Administration ready to make that commitment -- and without it, how could we begin to justify product dependency as an acceptable policy?

Is there a real present threat to the U.S. refining industry?

Yes there is. It comes from a variety of sources. One danger is that the tariff on imported gasoline was set at 1.25 cents a gallon in the 1950s when the wholesale price of gasoline was about 10 cents a gallon. The tariff is still 1.25 cents a gallon today although the wholesale price now is 78 cents a gallon. In fact, the tariff for importing gasoline to the U.S. is one of the few things that costs what it did 25 years ago.

That small tariff,
plus higher labor costs
plus the strong U.S. dollar,
plus our demand for high octane gasolines,
plus the low profitability of today's U.S. refineries,
plus the taxes and regulatory costs domestic refiners face,
add up to a real problem for U.S. refiners.

There are other problems too: For example, some gasoline components can be imported as part of gasoline more cheaply than they could come in on their own. That's a real problem because the gasoline market bears the whole burden of the unintended loophole.

For example, ethanol used in gasoline can now come into the country as a "gasoline component" 59 cents a gallon more cheaply than it could if it entered classed as "ethanol." And it does so.

The problem is real because once in the market, ethanol blends are sold with reduced federal taxes -- and in thirty or so states with reduced state taxes. As a result, they just crowd out domestically refined and fully taxed gallons -- and reduce state and federal revenues.

Refiners are not the only parties to see these problems: The International Trade Commission in April of 1985 affirmed by a vote of 5 to 0 that there is "a reasonable indication of threat of injury" to the domestic refining industry from imported petroleum products.

Further, the ITC has asked the Department of Commerce to investigate the problem and has also begun its own studies on the abuse of the ethanol differential for gasoline blendstocks. Senator Dole has expressed the feeling that such ethanol ought to pay the full ethanol tariff. On the other side, nobody has suggested that the U.S. ought to be subsidizing foreign ethanol producers.

Some observers believe we could control product dependence by restoring the import tariff to its original value relative to the wholesale price of gasoline. While Amoco is not prepared to endorse such proposals either in principle or in specific detail, we do see parties interested in maintaining a strong U.S. refining industry coalescing around such legislation.

We have also noticed recent public opinion surveys which show that people are concerned about becoming increasingly dependent on foreign suppliers for petroleum product -- and are actually willing to pay a premium to preserve or enhance domestic sufficiency especially in vital national security areas.

The U.S. government can't do anything more strategic than provide incentives for more producers, refiners, transporters, and marketers to stay in the marketplace. Permission to OPEC product exporters to import to the U.S. at will may look like it's providing that incentive. But it isn't.

In reality, it's a shortsighted and destructive policy that will permit OPEC to use our market to regain its previous energy supply dominance.

If we don't find a way to monitor and control our imports, we'll see one of two scenarios: Either U.S. refiners will keep their prices down to the point where they would ultimately go out of business. Or they will raise prices to cover their costs and thereby make the U.S. that much more attractive a market for exporting countries. And ultimately our refineries will go out of business.

Whatever defense strategy we decide on to preserve our refining self sufficiency, we should send a clear signal to OPEC -- and to our allies -- that we know a threat to our security when we see one. And a signal that we will not allow a vital industry to wither away while the U.S. becomes the temporary dumping ground for subsidized petroleum products -- and a long-term target for manipulated petroleum product prices.

As I said, we are in a breathing space. It won't last forever. Each day we postpone the decision, we encourage OPEC product exporters that much more. We have nothing to gain by raising their expectations.

Within the memory of everyone on this committee, the U.S. has been at OPEC's mercy twice: In 1973-74, they quadrupled prices. In 1979-80, they doubled prices. In neither case were they primarily concerned about the damage they would do to either the U.S. or to world economies.

Twice is enough.

As the result of those pricing actions, we saw the effectiveness of the U.S. foreign policy threatened. We saw the U.S. oil industry saddled with needless and counter-productive controls from the wellhead to the gas tank. And we saw the U.S. marketplace subject to price dictation by a foreign, anti-market cartel.

By contrast, during the time since Decontrol, we have seen the U.S. industry invest aggressively and prudently in its refineries -- and in conjunction with the Strategic Petroleum Reserve greatly enhance U.S. product supply security. And we have seen record breaking years in private capital expenditures on frontiers of new technology and frontier areas of exploration.

From a strategic standpoint, we can choose between a vital U.S. industry investing in secure domestic crude and product supplies. Or we can allow a myopic view of today's energy surplus to lull us back to greater foreign dependency.

Personally, I don't believe this is the time to put U.S. refined product supplies in the hands of Middle Eastern product exporters. Thankfully, there is no need to do so.

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HAWAII
SOLAR ENERGY
ASSOCIATION

June 21, 1985

STATEMENT OF THE HAWAII SOLAR ENERGY ASSOCIATION, INC.
MARK A. HERTEL, PRESIDENT

before

THE SENATE FINANCE COMMITTEE
ENERGY & AGRICULTURAL TAXATION SUBCOMMITTEE

The Hawaii Solar Energy Association, Inc. (HSEA), a professional trade association of retailers, contractors, distributors, and manufacturers, strongly opposes the provision of the President's tax reform plan which calls for either the termination or scheduled expiration of the energy tax credits on December 31, 1985. These are: the residential energy tax credit, the energy investment tax credit, the alcohol fuels credit, and the excise tax exemption for certain fuel efficient taxicabs. The HSEA strongly opposes the cancellation of these credits as shortsighted, unwise, and inequitable.

Since the President's plan restores tax benefits for oil and gas, i.e. intangible drilling costs and depletion allowances, and also provides depreciation provisions even more generous than existing ones to electric utilities, it is clear that the Administration is uncommitted to a free market economy for energy, where all suppliers compete on a level, and unsubsidized, playing field. It is clear, more-

Hawaii Solar Energy Association, Inc.
P.O. Box 23380 Honolulu, Hawaii 96822

over, that the Administration is intent upon asking the renewable energy industry to compete, unfairly, against heavily subsidized conventional energy suppliers - petroleum, gas, nuclear, and coal - which, according to most estimates, receive 27 billion annually in tax incentives. By continuing to use tax policy in support of conventional energy suppliers, the Administration jeopardizes our most cost-effective means to energy security, i.e. conservation and the utilization of renewable energy resources, and encourages dependence on fossil fuels.

The HSEA suggests that a far more rational approach to both tax reform and energy policy would be to phase-out all energy credits and subsidies on a declining basis over a three to five year period. This is precisely the approach taken by bills HR 1272, HR 2001, S1201 and S1220, which would extend the energy tax credits to a point where tax incentives will no longer be required. Indeed, if all energy subsidies are phased-out or drastically reduced over the next five years, we will have a highly competitive environment where tax incentives will not be necessary to promote conservation. We also would have gone a long way toward reducing the national debt and our dependence on imported petroleum.

Mr. Chairman, committee members, given the volatility and unpredictability of oil prices and supply, it behooves us to do everything in our power to increase our national security by decreasing our dependence upon fossil fuels. This will not be accomplished by further subsidizing conventional energy suppliers and neglecting the renewable energy industry. The HSEA thus respectfully requests that you support the energy tax credit phase out bills referenced above.

AKIN, GUMP, STRAUSS, HAUER & FELD
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MEMORANDUM

TO: Independent Refiners Coalition

RE: The History and Legal Basis of Oil Import Fees Implemented Pursuant to Section 232 of the Trade Expansion Act of 1962

DATE: April 26, 1985

This Memorandum reviews the history of oil import fees implemented pursuant to Section 232 of the Trade Expansion Act of 1962. In particular, the adoption of import fee programs by Presidents Nixon, Ford and Carter is examined, and the success of the programs is evaluated. Further, the legal authority for the imposition of import fees is discussed. Finally, the rationale for the use of import fees briefly is described. Arguments are presented that import fees can lessen our reliance on unstable sources of imported oil, and put pressure on OPEC, can produce revenue and can foster conservation. For these reasons, import fees often have been determined to be the superior approach to the adjustment of import levels which threaten our national security.

A. Introduction

Section 232(b) of the Trade Expansion Act of 1962[1/] provides that if the Secretary of the Treasury finds that an "article is

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[1/] 19 U.S.C. § 1862

being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security," the President is authorized to "take such action, and for such time, as he deems necessary to adjust the imports of [the] article and its derivatives so that . . . imports [of the article] will not threaten to impair the national security." On the basis of this statute, five presidents, Eisenhower, Nixon, Ford, Carter and Reagan have implemented remedies to respond to oil import levels found to be threatening to national security.[2] President Eisenhower imposed quotas. President Reagan invoked Section 232 to impose an embargo on imports of Libyan crude oil.[3] The other three Presidents adopted import fees as a

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[2] In addition, in 1955 a Cabinet advisory committee recommended the use of voluntary oil import restraints to maintain the 1954 ratio of crude and residual fuel imports to domestic production. Continued and expanded voluntary restraint was recommended in 1957. The voluntary plan was found not to have been fully complied with, and a 1959 Cabinet Committee report concluded that "the consequences [of relying on a purely voluntary program] would continue to upset a reasonable balance between imports and domestic production with deleterious effect upon adequate exploration and the development of additional reserves." Cabinet Committee Report, March 6, 1959.

[3] *See* Presidential Proclamation No. 4907 (March 10, 1982), 3 *C.F.R.* § 21 (1983). In support of his action, the President stated that the:

> Secretaries of Commerce and Energy have advised me that the threat to the national security posed by imports of petroleum continues . . . . [W]e no longer consider Libya to be a reliable supplier of United States energy needs, and we must ensure that we are not vulnerable to Libyan action in the area. Libyan policy and action supported by revenues from the sale of oil imported

FOOTNOTE CONTINUED

weapon against the threat posed by high levels of petroleum imports. A brief history of the implementation of import remedies is provided below.

In 1959, President Eisenhower was advised by the Director of the Office of Defense Mobilization that "crude oil and the principal crude oil derivatives and products are being imported in such quantities and under such circumstances as to threaten to impair the national security."[4] Accordingly, Eisenhower invoked the 1958 version of Section 232,[5] and established the Mandatory

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3/ FOOTNOTE CONTINUED

into the United States are inimical to United States national security.

In Presidential Proclamation No. 5141, 48 Fed. Reg. 56929, effective December 22, 1983, President Reagan continued the embargo on Libyan crude, but rescinded the existing system of licensing of imports of petroleum and petroleum products.

4/ See Presidential Proclamation No. 3279, 3 C.F.R. 11 (1969).

5/ The provision originally was enacted in 1955, as part of Trade Agreements Extension Act of 1955. Section 7 of that Act authorized a two-step procedure for the restriction of imports threatening to impair national security: 1) an opinion by the Director of the Office of Defense Mobilization as to whether imports of a particular article were threatening to impair the national security, followed by 2) a determination by the President of both the relevant facts and of the action he deemed necessary to counteract the threat. The statute was further amended by Section 8 of the 1958 Extension Act. The 1958 amendments set forth, *inter alia*, standards to be considered, such as the effect of imports on "domestic production needed for projected national defense requirements" and on the "capacity of the U.S. to meet national security requirements." These provisions were incorporated, in the main, in the Trade Expansion Act of 1962.

Oil Import Program (MOIP). The MOIP was designed to reduce the gap between domestic supply and demand by encouraging the development of domestic production and refinery capacity. It imposed a system of quotas on the importation of petroleum and petroleum products.[6]

The program was not wholly successful.[7] Indeed, in 1970 a Cabinet task force concluded that the MOIP, as then constituted, was not fulfilling its objectives.[8] The task force argued

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[6] The original objective of the MOIP was to restrict imports of petroleum and petroleum products to 12.2 percent of domestic production in PADD Districts I-IV (the Eastern 80 percent of the continental U.S.), and to no more than the difference between demand and domestic supply in PADD V (the West Coast).

[7] In the face of domestic consumption which continued to grow faster than domestic production, Presidents Kennedy, Johnson, and Nixon each felt compelled to amend the program by raising the permissible quota levels.

[8] See Cabinet Task Force on Oil Import Control, The Oil Import Question 128 (1970). The task force concluded that the objectives of oil import policy should be: 1) to protect essential demand against foreign supply interruptions: "[w]e interpret the statutory reference to the capacity of the United States to meet national security requirements as implying a primary objective of protecting military and essential civilian demand against reasonably possible foreign supply interruptions that could not be overcome by feasible replacement measures in an emergency. This will require us to consider what portion of domestic (and perhaps allied) oil demand is essential; what interruptions from what sources and to what extent are reasonably possible; and what alternative supplies are or might be available from ordinary and emergency sources."; and 2) to prevent severe weakening of the national economy: "[f]rom the language of the statute itself, it is evident that another primary objective is to prevent imports from causing a decline in the petroleum sector of U.S. industry that would so weaken the national economy as to impair the national security -- taking into account resulting unemployment, decrease in government revenues, loss of skills or investment or 'other

FOOTNOTE CONTINUED

persuasively against the use of quotas. Specifically, it was concluded that quotas were not sufficiently responsive to security considerations. Fixed quota limitations were found to "bear no reasonable relation to . . . requirements for protection either of the national economy or of essential oil consumption."[9] Moreover, the task force concluded that the quota system had "spawned a host of special arrangements and exceptions for purposes essentially unrelated to the national security, [had] imposed high costs and inefficiencies on consumers and the economy, and [had] led to undue government intervention in the market and consequent competitive distortions."[10] The task force asserted that import controls should interfere as little as possible with competitive market forces, while still remaining "subject to adjustment as needed to respond to changes in the over-all security environment."[11]

8/ FOOTNOTE CONTINUED

serious effects'." The task force emphasized that other considerations include 1) accomplishing the primary objectives with minimum cost and maximum advantage to the economy, to various regions of the country, to consumers and producers, and to other segments of the industry, 2) seeking minimum disruption to, and maximum opportunity for, the free play of competitive market forces, and 3) avoiding undue adverse effects on either our balance of payments or our foreign relations. Id. at 8.

[9] Id. at 128.

[10] Id.

[11] Id.

B. The Nixon Administration

President Nixon, acting pursuant to Section 232(b), radically amended the program.[12] The President suspended existing tariffs on oil imports and provided 'for a gradual transition from the existing quota method of adjusting imports of petroleum and petroleum products to a long-term program for adjustment of imports of petroleum and petroleum products through . . . the institution of a system of fees applicable to imports of crude oil, unfinished oils, and finished products . . . ."[13] This amended program established a gradually increasing schedule of license fees for importers. With respect to crude oil, the fee was scheduled to increase from an initial 10 1/2 cents per barrel on May 1, 1973, to 21 cents per barrel on May 1, 1975. With respect to most finished petroleum products, the fee was to rise gradually from 15 cents per barrel on May 1, 1973, to 63 cents per barrel on November 1, 1975.[14/] While some oil imports were initially exempted from the license fee requirements, the exemption levels were scheduled to decrease annually so that by 1980 the fees would be applicable to all oil imports.

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[12] See Presidential Proclamation No. 4210, 3 C.F.R. 31 (1974).

[13] Id. at 32 (emphasis added). In Federal Energy Administration et al. v. Algonquin SNG, Inc., et al., 426 U.S. 548 (1975), the Supreme Court held that Section 232(b) authorized the President to impose license fees on imports. Eight states and their Governors, 10 utility companies, and a Congressman had brought a suit challenging the license fees on the ground, inter alia, that they were beyond the President's authority under § 232(b). The District Court initially denied relief, holding that § 232(b) is a valid delegation to the President of the power to impose license fees on imports, and that the procedures followed by the President and the Secretary in imposing the fees fully complied with the statute. The Court of Appeals reversed, holding that § 232(b) does not authorize the President to impose a license fee scheme as a method of adjusting imports, but encompasses only the use of "direct" controls such as quotas.

In holding that § 232(b) in fact authorized the imposition of import fees, the Court found, inter alia, that § 232(b)'s language "clearly grants him a measure of discretion in determining the method used to adjust imports," and that "there is no support in the statute's language that the authorization to the President to 'adjust' imports should be read to encompass only quantitative methods, i.e., quotas, as opposed to monetary methods, i.e., license fees, for effecting such adjustments . . . ." The Court also found that § 232(b)'s legislative history supported the interpretation above.

C. The Ford Administration

President Nixon's 1973 program apparently did not wholly fulfill its objectives. Accordingly, the Secretary of the Treasury, acting pursuant to Section 232(b), initiated an investigation on January 4, 1975, "to determine the effects on the national security of imports of petroleum and petroleum products."[15/] The Secretary submitted a report on his investigation to President Ford on January 14, 1975. Intimating that the measures then in force under Section 232(b) had indeed

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[14/] *Id*. at 36. Under President Nixon's plan, the fee for motor gasoline was scheduled to reach its maximum of 63 cents on May 1, 1975.

[15/] *See* Memorandum from Secretary of the Treasury Simon to Assistant Secretary of the Treasury MacDonald, reprinted at 40 Fed. Reg. 4462 (1975).

not completely solved the problems to which they were directed, the Secretary indicated that the United States' dependence on foreign oil had continued to increase since 1966 and that foreign sources currently accounted for well over a third of domestic consumption:

> crude oil, principal crude oil derivatives and products, and related products derived from natural gas and coal tar are being imported into the United States in such quantities as to threaten to impair the national security [and] the foregoing products are being imported into the United States under such circumstances as to threaten to impair the national security.[16/]

Moreover, the Secretary stated:

> [p]etroleum is a unique commodity; it is essential to almost every sector of our economy, either as a raw material component or as the fuel for processing or transporting goods. It is thus essential to the maintenance of our gross national product and overall economic health. Only a small percentage of present U.S. petroleum imports could be deemed to be secure from interruption in the event of a major world crisis. The quantity of petroleum imports, moreover, is now such a high percentage of total U.S. consumption that an interruption larger than one million barrels per day at the present time would adversely affect our economy. If our imports not presently deemed to be secure from interruption were in fact kept from our shores, the effect on the U.S. economy would be staggering and would clearly reach beyond a matter of inconvenience, or loss of raw materials and fuel for industries not essential to our national security. The

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[16/] 40 Fed. Reg. 4457 (1975).

> outflow in payments for petroleum also poses a clear threat not only to our wellbeing, but to the welfare of our allies. As the State Department has concluded, the massive transfer of wealth greatly enhances the economic and political power of all rich states who do not necessarily share our foreign policy objectives, and correspondingly tends to erode the political power of the United States and its allies.[17/]

17/ 40 Fed. Reg. 4772. In support of his conclusion and recommendation, the Secretary relied, inter alia, on comments submitted by the Department of Defense which described the risks to the nation's national security, posed by the threat of a future supply interruption, as follows:

> The Department of Defense holds that this nation must have the capability to meet the essential energy requirements of its military forces and of its civil economy from secure sources not subject to military, economic or political interdiction. While it may be that complete national energy self-sufficiency is unnecessary, the degree of our sufficiency must be such that any potential supply denial will be sustainable for an extended period without degradation of military readiness or operations, and without significant impact on industrial output or the welfare of the populace. This is true because the national security is threatened when: (1) the national economy is depressed; (2) we are obliged to rely on non-secure sources for essential quantities of fuel; (3) costs for essential fuels are unduly high; and (4) we reach a point where secure available internal fuel resources are exhausted.
>
> As you know, the Mandatory Oil Import Program was established in 1959 for the express purpose of controlling the quantity of imported oil which at that time had been found to threaten to impair the national security. In the intervening years we have observed with growing concern the decline in domestic and western hemisphere petroleum productive capacity in relation to demand. The result has been a rapid expansion in our dependence on eastern hemisphere sources for the oil which is so

FOOTNOTE CONTINUED

On the basis of these findings, the Secretary recommended to the President that:

> appropriate action be taken to reduce imports of crude oil, principal crude oil derivatives and products, and related products derived from natural gas and coal tar into the United States . . . .[18]

The President agreed with the findings of the Secretary's investigation and concluded that it was "necessary and consistent with the national security to further discourage importation into the United States of petroleum, petroleum products, and related products . . . ."[19] Invoking Section 232(b), a Proclamation was issued, on January 23, 1975, which immediately raised the "first-tier" license fees that were imposed in 1973 to the maximum levels previously scheduled to be reached only some months

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17/ FOOTNOTE CONTINUED

> essential to our military needs and the nation's economy. By 1973 that dependence had reached a level which risked substantial harm to the national economy in event of a peacetime supply denial. In event of general war, those risks would be substantially greater because of the sharply increased level of military petroleum consumption which would require support from domestic petroleum resources. The 1973 Arab Oil embargo offered proof, if proof were needed, of the deterioration in our national energy situation.

40 Fed. Reg. 4460.

18/ 40 Fed. Reg. 4457.

19/ Presidential Proclamation No. 4341, 3A C.F.R. 2 (1975).

later.[20] The Proclamation also imposed on all imported oil, whether covered by the first-tier fees or not, a supplemental fee of $1 per barrel for oil entering the United States on or after February 1, 1975. The supplemental fee was scheduled to rise to $2 per barrel for oil entering after April 1, 1975. Finally, tariffs were reinstated that had been suspended in April 1973.[21]

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[20] Presidential Proclamation No. 4341, supra. The Proclamation did not alter the schedule by which exemptions from the first-tier fees were not to be eliminated until 1980.

[21] The 1970 cabinet task force, discussed supra, argued that tariffs, and similiar monetary tools, were preferable to quotas for several reasons, including, inter alia, 1) **Competitive liberalization:** "[a] tariff system makes imported crude and product supplies available to anyone willing to pay the tariff. It therefore frees domestic buyers -- who may be refiners, distributors, or marketers -- from strict dependence on particular suppliers. In addition, because a tariff [can] be designed to equalize domestic and delivered foreign crude prices, domestic producers [can] have a continuing economic incentive to reduce their costs so as to increase their market share. Tariffs hence stimulate internal competition -- leading to greater efficiency -- while rigid quotas tend to perpetuate institutional inefficiencies and fixed prices. A tariff system [can], to be sure, introduce the kinds of risks and uncertainties inherent in any market in which the participants compete for the available business. But market competition, with all the risks it implies, is by and large the economic system on which this nation has prospered"; 2) **Substitution of the marketplace for government allocation:** "[n]o single aspect of the [quota] systems [has] . . . engendered so much controversy as the allocation of valuable import rights among recipients . . . There are inevitable strains and distortions in the administrative process of favoring some at the expense of others. The hazards of fallible judgment, combined with the ever-present risks of corruption, counsel strongly in favor of getting the government out of the allocation business as rapidly and as completely as possible . . . A tariff system can . . . have the advantage of reducing administrative costs and the danger of favoritism and corruption"; and 3) **Revenues available for security measures:** "[t]he disposition of government revenues is, of course, subject

FOOTNOTE CONTINUED

Soon after issuance of the Proclamation, the Federal Energy Administration (FEA) amended its oil import regulations in order to implement the new program.[22] In so doing, FEA stated that "the purpose of the new Proclamation is, in the interest of national security, to discourage further importation into the United States of petroleum, petroleum products, and related products through the imposition of greater import license fees, and thereby to create conditions favorable to the development of domestic petroleum resources needed for projected national security requirements."[23]

The supplemental fee increases, which were supposed to go into effect in March and April, were twice deferred.[24] While the $2 fee finally went into effect on June 1, 1975,[25] it was

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21/ FOOTNOTE CONTINUED

to Congressional authorization and appropriation. Thus, . . . tariff revenues [can] not be earmarked for particular purposes; but they [can] serve as a basis for legislation to develop, for example, strategic petroleum reserves without increasing general taxes. An incidental benefit of a tariff system is thus that it [can] facilitate further research and exploration into development of synthetic crude, development of reserves on government lands, or other steps contributing to oil security." The Oil Import Question, supra at 87-90.

[22] 40 Fed. Reg. 4771-4776 (1975).

[23] Id. at 4771.

[24] See Presidential Proclamation No. 4355, 3A C.F.R. 26 (1975); Presidential Proclamation No. 4370, 3A C.F.R. 45 (1975).

[25] Presidential Proclamation No. 4377, 3A C.F.R. 53 (1975).

never increased to $3. On January 3, 1976, President Ford eliminated the $2 fee.[26]

D. The Carter Administration

In August 1977, in enacting Title I of the Department of Energy Organization Act, Congress declared that the "energy shortage and our increasing dependence on foreign energy supplies present a serious threat to the national security of the United States." This declaration echoed an earlier Congressional finding, in Section 2 of the Emergency Petroleum Allocation Act of 1973, that oil shortages had created severe economic dislocations and hardships which constituted a national energy crisis threatening the public health, safety and welfare. More recently, Section 102 of the National Energy Conservation Policy Act of 1978 emphasized the need to stem the nation's increasing reliance on imported oil and the vulnerability which accompanies such reliance.

On March 15, 1978, then Secretary of the Treasury, W. Michael Blumenthal, directed a new investigation of the threat to national security presented by petroleum and petroleum product imports under Section 232 for "contingency purposes."[27] One year later, on March 14, 1979, the Secretary submitted his report to the President, and therein found that the nation had grown more dependent on petroleum since the 1975 report of then Treasury Secretary Simon. Secretary Blumenthal further found as follows:

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[26] Presidential Proclamation No. 4412, 3 C.F.R. 3 (1977).

[27] 44 Fed. Reg. 18824 (1979).

> This growing reliance on oil imports had important consequences for the nation's defense and economic welfare. Because so much of the oil used in the United States originates thousands of miles away, supplies are vulnerable to interruption from a variety of causes. Recent developments in Iran have dramatized the consequences of this excessive dependence of foreign sources of petroleum. Furthermore, the rising level of oil imports adversely affects our balance of trade and our efforts to strengthen the dollar; in 1978, outflows of dollars for our oil imports amounted to $42 billion, $15 billion more than in 1975 and offsetting much of the rise in our exports of industrial and farm products.[28]

The Department of Defense, in its comments to the Treasury Department, succinctly stated the effects of imports on national security:

> Disruption of petroleum imports has a direct impact on the economi7 and political security of the United States. The impact could include the lack of adequate fuel to operate industries, increased inflation and, ultimately, rising unemployment. Impacts such as these affect the military security, because they weaken one of this country's greatest assets, its industrial vitality. The Department of Defense relies on the industrial base to provide the weapons and equipment it needs to project its military power when and where needed to protect the national interests of the United States. As a result, adverse

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28/ 44 Fed. Reg. 18818 (1979).

> economic conditions in the United States weaken the industrial base. Reduction of oil supplies could cause some contractors, upon whom the Department of Defense relies, to curtail operations altogether. Other contractors could be forced to limit their operations (e.g., close some plants) in a way that would make them less flexible and responsive to Department of Defense requirements.[29]

The President's eventual response to the Secretary's report was the enactment, on April 2, 1980, of the "Petroleum Import Adjustment Program," (PIAP) which imposed license fees on imported crude oil and gasoline.[30] The PIAP primarily was

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[29] 44 Fed. Reg. at 18828. In remarks quoted in DOD's comments, then Secretary of Defense, Harold Brown, further stated that:

> The present deficiency of assured energy resources is the single surest threat that the future poses to our security and to that of our allies . . . . Such a cut-off could grow from conflict between others -- as in the Middle East in a crises which did not involve our own forces, or it could be directed primarily at the United States -- as in a war in which our adversary interdicted or destroyed our sources of foreign supply. Under either condition, until we lessen the import habit we are terribly vulnerable.

Id.

[30] *See* Presidential Proclamation 4744, 45 Fed. Reg. 22864 (1980). In that Proclamation, the President stated:

> In March 1979, the Secretary of the Treasury concluded that . . . imports were entering the country "in such quantities and under such circumstances as to threaten to impair the national security." This finding confirmed the results of previous investigations conducted in 1959 and 1975. The high level of the Nation's consumption of gasoline is the single most

FOOTNOTE CONTINUED

implemented to lower domestic gasoline consumption by raising the retail price of all gasoline by $.10 per gallon. The amount of the license fee was to float, and was to be determined by the effect of the fee on the retail price of gasoline. These fees were ultimately to be shifted downstream to consumers of gasoline, in the form of a 10 cents per gallon fee, through a complex regulatory program administered by the Department of Energy.[31] This downstream shifting of the initial fees was held illegal in

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30/ FOOTNOTE CONTINUED

important cause of our dependence on foreign oil. At the same time, our consumption of gasoline can be reduced with less serious consequences to our economy than if similiar action were taken with respect to other petroleum products, such as home heating oil.

> To counter this threat to the national security of the United States, I deem it necessary to adjust crude oil and gasoline imports through imposition of a gasoline conservation fee on imports of crude oil and gasoline and a system of passing the cost of this fee through on the price of gasoline in a manner consistent with and in furtherance of the objectives of the Emergency Petroleum Allocation Act of 1973 (15 U.S.C. 751 *et seq.*).

[31] The initial cost of the fee was to be borne by importers. With regard to crude oil, importers were to be entirely reimbursed for the payment of the fee through the PIAP's entitlement program. Under that program, domestic gasoline refiners were to purchase entitlements from importers; the price of the entitlements to vary monthly to insure full reimbursement. PIAP provided that all costs incurred from the conservation fee might be passed through the chain of distribution. At the refiner level, however, instead of remaining solely on imported oil, the PIAP provided that the cost of the fee was to be borne by jobbers, and then consumers, of both domestic and imported gasoline.

Independent Gasoline Marketers Council v. Duncan.[32] However, the district court did uphold the President's authority under Section 232 to impose license fees on crude oil and gasoline. Citing Algonquin,[33] the court concurred that Section 232 authorizes the President to impose not only quantitative restraints that affect the supply of imported goods, but also monetary measures, such as license fees, that control imports by affecting demand. The court noted that a license fee, like a quota, has its initial and direct impact on imports, albeit on their price as opposed to their quantity.

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[32] 492 F. Supp. 614 (D.D.C. 1980). As the Duncan court described, "the program would initially attempt to curb demand for imported oil and gasoline in a judicially approved manner. The PIAP mechanism completely undermines this demand-side disincentive, however, by contemplating that the cost of the fee would eventually be paid by consumers of both domestic and imported gasoline." The court argued that, "the PIAP would result in increased fees as importation of oil decreases, and decreased fees, should the amount of imported oil increase. Rather than attempt to directly decrease the amount of oil imported into the United States, the PIAP attempts to decrease the total amount of oil consumed, and therefore could have only a collateral effect on the retailing of foreign oil."

[33] FEA v. Algonquin SNG, note 14, supra. The Duncan court concluded, however, that Algonquin was not dispositive. "The import fee approved by the Supreme Court in that case directly affected the price of imported oil relative to domestic oil. Standing alone, the import fee component of the PIAP would have a similar effect. In the context of the PIAP mechanism as a whole, however, the import fee has no initial and direct impact on imports similar to that of the fee approved in Algonquin. Nor is it intended to have such a result. The purpose and effect of the entitlements component of the PIAP mechanism is to neutralize the initial and direct impact that the fee standing alone would have on oil imports. Under the system as outlined above, the $.10 per gallon conservation fee imposed on all gasoline is used to offset the initial import fee in its entirety."

The legal defect in the Carter scheme was that the specific demand-side disincentive, initially placed on imported oil, eventually was "transformed into a generalized demand-side disincentive on the purchase of all gasoline."[34] The Court stressed that "no monetary burden was imposed on imported oil that was not imposed on domestic oil . . . . The effect of the PIAP was to impose a $.10 per gallon conservation fee on all gasoline sales. Any impact on imports would have been indirect and would [have resulted] from the general gasoline conservation fee, not from the initial import fee."[35]

E. Rationale for the Imposition of Import Fees

In addition to the pure national security arguments inherent in much of the preceding discussion,[36] three basic reasons for the use of import fees have been advanced over the years in Congressional hearings and Administration studies: (1) import fees lessen our reliance on unstable sources of imported oil, and put pressure on OPEC; (2) import fees produce revenue; and (3) import fees foster conservation. These are discussed, in turn, below.

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[34] Duncan, supra, at 617.

[35] Id., at 618.

[36] For the national security justifications articulated in the implementing Presidential Proclamations of Presidents Nixon, Ford, and Carter, see Attachment.

1. Reduced Dependence on Unreliable Imports

It has been argued that an import fee: could lower the amount of oil imported, reducing import dependence; could bring additional pressure on OPEC, further destabilizing it and perhaps leading to its demise; could lower costs of future disruptions; and could encourage the development of domestic reserves. In 1980, at a hearing on oil import fees before the House Ways and Means Committee, Trade Subcommittee, Chairman Charles A. Vanik, expressing the sentiment of numerous colleagues, stated that an import fee would reduce the use of imported oil, and that "it makes more sense . . . to impose fees on imported oil so that our reliance on it is reduced. . . . The issue is, do we give more and more tribute to OPEC or do we begin to build the muscle of the American government and American people to solve problems and break free of OPEC's stronghold?"[37]

In 1982, the Department of Energy concluded that "the import effects of higher oil prices can mean lessened dependence upon imports, reducing our exposure to future disruptions or threats of disruption, increased domestic oil production, and further destabilization of OPEC. Also, an import fee could be a 'user fee' dedicated to financing programs such as the Strategic

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[37] "Oil Import Fees: The Administration of the Program and Its Impact", Hearings before the Subcommittee on Trade of the House Committee on Ways and Means, 96th Cong., 2d Sess. 2 (1980). The 1980 fee was expected to reduce imports by only about 50,000 to 100,000 barrels per day. But Congressman Vanik stressed that "energy independence is made up of a series of small steps."

Petroleum Reserve (SPR) made necessary by our dependence upon imported oil."[38] Moreover, it has repeatedly been emphasized that volunteerism cannot be relied upon in this context. As W. David Montgomery, from Resources from the Future, pointed out at the same hearings: "although oil conservation would reduce the microeconomic costs of oil supply interruptions, no individual has an economic incentive to take these costs into account in making a consumption decision. The contribution of oil use to economic vulnerability is like its contribution to air pollution: everyone suffers but no one has an adequate incentive to take individual action."[39] A tariff, Montgomery emphasized, helps to "reduce economic vulnerability to a disruption."[40]

2. Revenue Enhancement

Many supporters of oil import fees have stressed, above all, that an advantage of such fees is that government revenues can be increased directly through the tax. Indeed the revenue enhancement aspects of an import fee have been important from the outset. In 1975, at House Ways and Means Committee hearings,

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38/ Office of Competition of the Department of Energy, as reported in "Oil Import Fee: Its Energy Policy Implications and Consumer Impacts," Hearings before the Subcommittee on Government Operations, House of Representatives, 97th Cong., 2d Sess., 79 (1982)

39/ *Id.* at 58. Resources for the Future is a nonprofit economic consulting firm.

40/ *Id.*

Federal Energy Administration (FEA) Administrator, Frank G. Zarb, made the point that "the President's program, while it conserves by virtue of taxing, . . . also, returns all that money to the economy."41/ At a separate 1975 hearing, then Treasury Secretary Simon made several related statements in response to criticism of the proposed program. Opponents had argued that increased taxes might constrict the entire economy by reducing the available purchasing power of individuals and businesses. Simon countered by emphasizing that "our best estimate, based on various economic projections, is that the President's energy package would raise energy costs by about $30 billion. However, the program should effectively overcome any depressant effects by returning that entire amount back to the economy."42/ Program opponents also argued that increased fees might significantly increase inflationary pressures. Simon responded, *inter alia*, that the price increase would be a one-time event. He stated that "the great bulk of the increased energy prices [would] be felt within [the] calendar year, [and that] no further inflationary effect [would] take place in future years. The ongoing rate of inflation, therefore, [would] not be permanently affected."43/

41/ "President's Authority to Adjust Imports of Petroleum; Public Debt Ceiling Increase; And Emergency Tax Proposals," Hearing before the House Committee on Ways and Means, 94th Cong., 1st Sess., 461 (1975).

42/ "Suspending Presidential Authority to Impose Oil Import Fees: $531 Billion Debt Limit," Hearings before the Comm. on Finance of the Senate, 94th Cong., 1st Sess., on H.R. 1767 and H.R. 2634, 99 (1975).

43/ *Id.* at 100.

Later, in the 1980 Ways and Means Committee hearings, Congressman Vanik stated: "I believe in a balanced budget. I believe that the revenues that will be raised by this import fee will prove to be largely necessary to balance the fiscal 1981 budget."[44/] Moreover, Vanik emphasized that "since the oil producing nations are determined to charge consumers whatever the market can bear, the import fee may serve to capture for the public some of the price escalation which might otherwise escape overseas in windfall profits to foreign producers and the oil companies. . . . [With import fees]. . ., money is brought into the Treasury to help the Federal Government solve other problems. All other nations tax oil and its products. In France, the price of regular gasoline is $2.59 and the Treasury receives $1.95; in Korea the price is $4.60, with the public treasury receiving most of that price in revenues.[45/]

At that time, then Secretary of the Treasury Miller also noted that "$25 to $30 billion more are going out of this nation this year than last year as the result of the tremendous explosion of oil prices. . . . As a technical matter, the gasoline fee will add about 0.5 percentage points to the 1980 inflation rate in direct terms, and perhaps another 0.3 percentage points indirectly over the longer run. However, without the fee, and the conservation psychology it will help sustain, we face the near certainty of even greater inflationary pressures over the

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44/ "Oil Import Fees: The Administration of the Program and Its Impact," (1980), *supra*, at 1.

45/ *Id*., at 2.

longer term from a renewed surge in U.S. gasoline consumption and oil imports. The oil price increases that would result from such an increase in imports would not only add to inflation but also to our import bill. The fee revenues, by contrast, would stay at home."[46/]

The problem, Miller stressed, was as serious as the nation had ever faced. "In 1970, this Nation paid $3 billion to import oil. This year, we will pay $85 to $90 billion to import oil. Along the way, we have continued business as usual, believing that we could consume without restraint; that somehow there would be adequate supplies at reasonable prices and history has proven us wrong. . . ."[47/]

In 1982, the oil import fee again was considered by the Administration, as a means for reducing the $182 billion deficit projected for 1983. The Petroleum Industry Research Foundation, Inc. testified then that "the revenue attraction is obvious. With an expected oil import level of about 5.5 million B/D of crude oil and products in 1983, each dollar in import fee would yield about $2 billion annually in direct gross revenue. In addition, there would be considerable government revenue from the indirect effect of the import fee on domestic crude oil and national gas liquids (NGL) prices. Domestic crude oil prices are of course directly related to the delivered cost of imported oil and would over time rise by approximately the amount of the

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[46/] _Id._ at 395, 396.

[47/] _Id._ at 403.

import fee."[48] Further, a Resources for the Future spokesperson also testified that: "if you believe that a tariff will lower the world oil price, then GNP shouldn't fall today, it should rise because of a lower import bill. Lower imports also lowers the deduction in GNP that is available for domestic consumption. This produces an expansionary effect on the economy beyond the reduction in the wealth transfer abroad. So if you believe that the world price will fall, GNP . . . will rise. GNP will also rise in the future as a result of lowering the vulnerability to disruptions."[49]

3. Encouragement of Conservation

An import fee arguably would lower total consumption of energy, would increase energy efficiency (that is, reduce the quantity of energy consumed per unit of output), would encourage the development and use of petroleum substitutes and alternative energy sources; and would prevent a return to earlier "wasteful" habits of energy use. It has, in fact, often been stressed that "conservation efforts, alternative energy development, domestic production, and more efficient energy usage by both business and consumers [would] be maintained and accelerated with higher oil

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48/ "Oil Import Fee: Its Energy Policy Implications and Consumer Impacts," (1982), *supra*, at 130.

49/ *Id.*, at 75.

prices causing beneficial effects upon the long-term economic prospects of the United States."[50/]

4. Contrast to Other Measures

In several of the hearings discussed, alternative methods of achieving the three goals above also were debated. However, significant evidence was presented that import fees were more effective, more easily administered, more equitable, and more environmentally sound.

In 1975 hearings, then Secretary Simon noted that "the President has chosen the market approach rather than arbitrary controls because the results will be better and the interim economic distortions will not be as great."[51/] Further, FEA Administrator Zarb emphasized the advantages of using market forces over some form of management by the Government. He particularly noted two strengths of import fees as opposed to various alternatives: effectiveness and equity. "In our determination and our analysis . . ., neither rationing nor an import quota or an allocation system would pass those two tests

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[50/] "Oil Import Fee: Its Energy Policy Implications and Consumer Impacts" (1982), *supra*, at 79, (from study prepared by H. Robert Field, Policy Analyst, Office of Competition, Department of Energy).

[51/] "President's Authority to Adjust Imports of Petroleum; Public Debt Ceiling Increase; And Emergency Tax Proposals," (1975), *supra*, at 241.

and, therefore, we selected the market mechanism."[52] Zarb further testified that the use of government controls, allocation systems or rationing . . . would necessarily imply "some form of self-imposed shortages as well as built in inefficiencies, burgeoning bureacracies and regulatory proliferation and disruption in the lives of all American citizens. . . . Furthermore, most of the controls would involve higher costs to everyone."[53]

Zarb noted that various options had been submitted to the Council of Economic Advisers for an economic analysis, prior to making recommendations to the President. "In their view, the tax method . . . [would] have the least impact on the economy, and the level of unemployment would be substantially less than the abruptness of a volumetic control."[54] Moreover, "the economic way," he believed, seemed "most orderly," with "the least amount of disruption and hardship associated with it."[55] At the 1975 Finance Committee hearing, energy consultant Charles Owens also specifically contrasted import quotas and rationing. Owens stated that an "effective rationing program [would] require a

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[52] "Suspending Presidential Authority to Impose Oil Import Fees; $531 Billion Debt Limit," (1975), supra, at 102.

[53] Id., at 104.

[54] "President's Authority to Adjust Imports of Petroleum; Public Debt Ceiling Increase; and Emergency Tax Proposals," (1975), supra, at 459.

[55] Id., at 460.

Federal bureaucracy of 17-20 thousand persons and cost over 2 billion dollars to administer."[56]

More recently, Secretary Miller has stressed that "there are only two ways . . . to restrain consumption. One is to limit physical quantities, available to individuals and businesses, to ration it; and the other way is to create a pricing mechanism that relates to the real value and the highest and best use, and allows choices to be made so that the cumulative impact through millions of decisions on a higher and better use of the oil product thereby assuring it is not wasted . . . ."[57] Similarly, in 1982, Resources for the Future testimony emphasized that "by providing a market incentive for additional conservation and production of oil and alternative fuels, (a) tariff will seek out the most cost-effective means of reducing imports in a uniform way throughout the economy, not just those which are targeted by particular programs or particularly narrowly defined taxes . . . .[58]

In general then, import fees have been found superior by these witnesses because they are the mechanism for reducing imports which best meet our national security, national revenue, and even national conservation goals. As Resources for the Future has concluded, this type of monetary tool will be "more efficient than any other combination of policies that achieve the same import reduction, but which fail to equate the cost of additional conservation and domestic oil production in all transactions throughout the economy. . ."[59]

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[56] "Suspending Presidential Authority to Impose Oil Import Fees; $531 Billion Debt Limit," (1975), supra, at 35.

[57] "Oil Import Fees: The Administration of the Program and Its Impact," (1980), supra, at 403.

[58] "Oil Import Fee: Its Energy Policy Implications and Consumer Impacts," (1982), supra, at 58.

The history of the imposition of import fees under Section 232 of the Trade Expansion Act of 1962 suggests that this remedy can be effective in protecting essential demand against foreign supply interruptions, while preventing serious weakening of the American economy. The import fees approach not only allows an opportunity for competitive market forces to work, but in fact it can generate badly needed revenue. These objectives were of great significance to the original 1970 Cabinet Task Force, and continued to be important to all subsequent administrations in dealing with this issue. The debate over how best to regulate oil import levels clearly is a complex one. But the arguments for the use of import fees remain persuasive.

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[59] *Id.*, at 65.

Attachment

The National Security Justification for the Imposition of Import Fees[1]

A. The Nixon Administration

In Presidential Proclamation No. 4210 (3 C.F.R. 31, (1974)), President Nixon instituted, *inter alia*, a system of fees on imports of crude oil, unfinished oils, and finished products. President Nixon stated in that Proclamation:

> The Chairman of the Oil Policy Committee maintains a constant surveillance of imports of petroleum and its primary derivatives in respect to the National Security.
>
> He informs me that, in the course of his surveillance, he has reviewed the status of imports under Proclamation 3279, as amended, of petroleum and its primary derivatives in their relation to the national security and that further Presidential action under section 232 of the Trade Expansion Act of 1962, as amended, is required.
>
> He recommends, after consultation with the Oil Policy Committee, that the method of adjusting imports of petroleum and petroleum products be modified by immediately suspending tariffs on imports of petroleum and petroleum products and by shifting to a system whereby such fees may be adjusted from time to time, as required in order to discourage the importation into the United States of petroleum and petroleum products in such quantities or under such circumstances as to threaten to impair the national security; to create conditions favorable, in the long range, to domestic production needed for projected national security requirements; to increase the capacity of domestic refineries and petrochemical plants to meet such requirements; and to encourage investment, exploration, and development necessary to assure such growth.

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[1] As proclaimed at the time of enactment in the official Presidential Proclamation.

> I agree with the recommendations of the Chairman, and I deem it necessary and consistent with the national security objectives of the Trade Expansion Act of 1962, as amended, that provision be made for a gradual transition from the existing quota method of adjusting imports of petroleum and petroleum products to a long-term program for adjustment of imports of petroleum and petroleum products through the suspension of existing tariffs and the institution of a system of fees applicable to imports of crude oil, unfinished oils, and finished products, which fees may be adjusted from time to time.

B. The Ford Administration

In Presidential Proclamation No. 4341 (3A C.F.R. 2 (1975)), President Ford raised 1973 license fees, and imposed, *inter alia*, a supplemental fee on all imported oil entering the country on or after February 1, 1975. In the Proclamation, President Ford stated:

> WHEREAS the Director of the Office of Civil and Defense Mobilization found pursuant to Section 2 of the Act of July 1, 1954, as amended (19 U.S.C. 1352(a), "that crude oil and the principal crude oil derivatives and products are being imported in such quantities and under such circumstances as to threaten to impair the national security"; and
>
> WHEREAS, Proclamation No. 3279 as well as modifications thereof, including Proclamation No. 4210 which suspended tariffs on imports of petroleum and petroleum products and established a system of license fees for such imports, was issued pursuant to this finding; and
>
> WHEREAS, although conditions in world oil markets have changed significantly in recent years, the above finding continues to be valid at the present time; and
>
> WHEREAS, the Administrator of the Federal Energy Administration who maintains constant surveillance of imports of petroleum and its primary derivatives in respect to the national security, and who has reviewed the current status of imports under Proclamation No. 3279, as amended, has recommended that the method of adjusting

imports of crude oil and the principal crude oil derivatives and products be modified; and

WHEREAS, I agree with this recommendation; and

WHEREAS, pursuant to Section 232 of the Trade Expansion Act of 1962, as amended (19 U.S.C. 1862), the Secretary of the Treasury having made an appropriate investigation to determine the effects on the national security of imports of crude oil and the principal crude oil derivatives and products and having considered the matters required by him to be considered by the Trade Expansion Act of 1962, as amended, has reported the findings of his investigation and has advised me that crude oil, the principal crude oil derivatives and products, and related products derived from natural gas and coal tar, are being imported in such quantities and under such circumstances as to threaten to impair the national security and has recommended that I take action to reduce such imports; and

WHEREAS, having considered the matters required by me to be considered by the Trade Expansion Act of 1962, as amended, I agree with the said advice; and

WHEREAS, I find and declare that adjustments must be made in imports of crude oil, the principal crude oil derivatives and products, and related products, so that such imports will not so threaten to impair the national security; and

WHEREAS, I judge it necessary and consistent with the national security to further discourage importation into the United States of petroleum, petroleum products, and related products, in such quantities or under such circumstances as to threaten to impair the national security; to create conditions favorable to domestic crude oil production needed for projected national security requirements; and to increase the capacity of domestic refineries and petrochemical plants to meet such requirements; and to encourage the development of other sources of energy; and

WHEREAS, in order to achieve the above objectives, I determine that a supplemental fee should be imposed on all imports of petroleum and petroleum products, and that certain other changes in the existing license fee system be made; and

> WHEREAS, I have instructed the Administrator of the Federal Energy Administration to evaluate the structure and scope of coverage of those aspects of the existing Mandatory Oil Import Program which are not changed by this Proclamation, and to report to me within three months with his recommendations;
>
> NOW, THEREFORE, I, GERALD R. FORD, President of the United States of America, acting under and by virtue of the authority vested in me by the Constitution and the laws of the United States, including Section 232 of the Trade Expansion Act of 1962, as amended, do hereby proclaim that, effective as of February 1, 1975, a new system of oil import fees is instituted, and accordingly, Proclamation No. 3279, as amended, is hereby further amended as follows:

C. The Carter Administration

In Presidential Proclamation 4744 (45 Fed. Reg. 22864 (1980)), President Carter enacted the Petroleum Import Adjustment Program (PIAP), which imposed license fees on imported crude oil and gasoline. In that Proclamation, the President stated:

> In March 1979, the Secretary of the Treasury, having conducted an investigation of imported petroleum and petroleum products in accordance with Section 232 of the Trade Expansion Act of 1962, as amended (19 U.S.C. 1862), concluded that such imports were entering the country "in such quantities and under such circumstances as to threaten to impair the national security." This finding confirmed the results of previous investigations conducted in 1959 and 1975.
>
> The high level of the Nation's consumption of gasoline is the single most important cause of our dependence on foreign oil. At the same time, our consumption of gasoline can be reduced with less serious consequences to our economy than if similar action were taken with respect to other petroleum products, such as home heating oil. Consequently, the Secretary of Energy and the Secretary of the Treasury have advised that I take action to reduce oil imports by imposing a fee on imports of crude oil and

gasoline and by establishing a program intended to ensure that the burden of the crude oil fee falls on gasoline. The Secretary of Commerce concurs.

I agree with their advice. *To counter this threat to the national security of the United States, I deem it necessary to act pursuant to Section 232 of the Trade Expansion Act to adjust crude oil and gasoline imports through imposition of a gasoline conservation fee on imports of crude oil and gasoline and a system of passing the cost of this fee through on the price of gasoline in a manner consistent with and in furtherance of the objectives of the Emergency Petroleum Allocation Act of 1973* (15 U.S.C. 751 *et seq.*).

NOW, THEREFORE, I, JIMMY CARTER, President of the United States of America, acting under and by virtue of the authority vested in me by the Constitution and the law of the United States, including Section 232 of the Trade Expansion Act of 1962, as amended (19 U.S.C. 1862), and the Emergency Petroleum Allocation Act of 1973, as amended (15 U.S.C. 751 *et seq.*), do hereby proclaim, effective March 15, 1980.

STATEMENT

Before the

Subcommittee on Energy and
Agricultural Taxation

Committee on Finance
United State Senate

Submitted by:

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Dated: July 3, 1985

Before the

Subcommittee on Energy and Agricultural Taxation
Committee on Finance
United State Senate

June 21, 1985

The companies[1] whose views are represented in this statement (the "Companies") are importers and blenders of gasoline located in all parts of the country. They operate at the cutting edge of competition by buying gasoline and blending stocks at the lowest possible cost from both domestic and foreign sources and manufacturing gasoline which is sold to consumers at the lowest possible prices. The Companies appreciate the opportunity to present their views on national energy security and tax policy to the Subcommittee.

More than thirty years of federal petroleum allocation programs and price controls have made painfully obvious the harm that government intervention in energy markets can cause. Chief among those who bear the costs of government interference in the marketplace is the American consumer who faces not only artificially induced shortages and artificially inflated prices but also a general economic dislocation which feeds inflation and stifles economic growth.

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[1] This statement is sponsored by Oxbow Resources, Inc.; Euro-Caribbean Oil Corp. and Golden Gate Petroleum Co.

The Companies submit that no national security risk exists today to justify government interference in the refined petroleum market and, based on reasonable projections, none will exist through the foreseeable future. Therefore, absent a clear national security emergency, the Companies oppose the use of the tax code or tariff schedules to afford protection from foreign competition to a small segment of the domestic petroleum industry.

I. Introduction

In recent months an increasingly vocal segment of the U.S. petroleum industry has begun calling for the introduction of protectionist barriers to imported products.[2/] The advocates of trade barriers, who by and large are independent refiners, contend that their viability is in jeopardy as a

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[2/] See, e.g., Testimony of John Hall, Chairman and CEO, Ashland Oil on behalf of Independent Refiners Coalition and Bill Tell, Jr., Senior Vice President, Texaco before the Subcommittee on Energy Conservation and Regulation, Senate Energy Committee, June 4, 1985; Testimony of George W. Jandacek, Vice Chairman of Crown Central Petroleum and Robert T. McGowan, Vice Chairman of Ashland Oil, before the Subcommittee on Energy and Agricultural Taxation, Senate Finance Committee, June 21, 1985.

direct consequence of imports and that ultimately a "flood" of gasoline and blendstock imports (which now constitute only 5 to 7 percent of total U.S. demand), will result in the failure of refineries that are essential to the national security.

The Companies are customers of the many of the independent refiners who are calling upon Congress for new trade barriers. They would be among the last in the industry to wish to see these businesses perish and among the first to suffer harm should this occur. They do not believe, however, that the refiners have made a case for new trade barriers. Even the refiners' own recently released Pace Co. study must use far-fetched and unrealistic assumptions to reach the conclusion that gasoline and blending stock imports may grow by a meager 4 to 6 percent by 1990. Using realistic projections, The Pace Co. study concurs with the conclusions of the Department of Energy and others, that imports will not likely exceed current levels through 1990.[3/]

The real problems of the U.S. refining sector over the past few years have been due to changing economic and competitive circumstances -- including a substantial decline in

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[3/] "The Effect of Increasing Petroleum Product Imports on the United States Refining Industry," The Pace Co., May 30, 1985.

demand and the elimination of a variety of federal subsidies that encouraged the creation of numerous small and inefficient refineries. Perhaps more important, there is every reason to believe that the independent refining sector is recovering and will be strong. No evidence suggests that it must be sheltered behind new tariffs every penny of which will cost the U.S. consumer more than $1 billion.

As Deputy Energy Secretary Boggs, Undersecretary of Defense Ikle and other Administration officials have repeatedly testified, current import levels do not constitute a threat to national security and do not justify the imposition of protectionist measures when the consequences to U.S. consumers and the economic health of the nation are manifestly adverse. Current statistics and projections indicate that domestic refining capacity will be sufficient to meet national needs even in the event of an emergency. Indeed, it is hard to believe that any threat exists when this Administration, which is so concerned with the national defense, discounts it. In sum, there is no basis for the imposition of trade barriers, particularly when they will inevitably distort world crude oil and products markets and jeopardize positive trade relationships with countries such as China, Canada, Mexico and Venezuela.

There is a need, however, for narrowly drawn technical adjustments to the tariff schedules to rationalize the classification of petroleum blendstocks. Here, the Companies endorse wholeheartedly the International Trade Commission's (ITC) recent recommendations to Congress, which arose out of an investigation requested by Sen. Dole as Chairman of the Finance Committee and Representative Rostenkowski, and their implementation in H.R. 2396 introduced by Representative Matsui. The Bill will both eliminate the uncertainty that currently surrounds the classification of motor fuel blending stocks and provide the Customs Service with much needed direction in the classification of such commodities. As the Companies testified before the ITC, the adoption of a rational classification system for blendstocks is necessary to end an ongoing nightmare for importers which on occasion has threatened to drive them from business. Therefore, the Companies urge the Subcommittee to consider favorably any legislation that would achieve the purpose of the ITC's recommendation to rationalize the classification of and duty applied to motor fuel blending components.

II. The Refining Industry Today

Prior to 1981, when President Reagan ordered the decontrol of the petroleum industry in the United States,[4]

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[4] Executive Order 12287, 46 Fed. Reg. 9909 (Jan. 30, 1981).

the domestic refining industry had been insulated from competition in the world market by federal programs dating back to the 1950's. These programs included oil import quotas and license fees,[5] and, beginning in 1974, price controls with their entitlements subsidies and notorious "small refiner bias."[6] These protectionist measures fostered inefficiency and misallocation of capital and labor resources in the petroleum industry generally and in the refiner segment in particular.[7] Government intervention likewise distorted domestic crude oil and product supply and demand and resulted in higher prices for the consumer.[8]

In stark contrast to this history, the more recent results of decontrol and a free domestic market in oil and

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5/ *See*, 22 *Fed*. *Reg*. 6804 (Aug. 22, 1957); 22 *Fed*. *Reg*. 12772 (Dec. 12, 1957); Exec. Order No. 10761, 23 *Fed*. *Reg*. 2067 (March 28, 1958); Proc. No. 3279, 24 *Fed*. *Reg*. 1781 (March 12, 1959) (establishing the Mandatory Oil Import Program); Exec. Order 11588, 36 *Fed*. *Reg*. 15727 (Aug. 17, 1971) (establishing import price controls); Proc. No. 4210, 38 *Fed*. *Reg*. 9645 (April 19, 1973) (eliminating the quota system and establishing the license fee system).

6/ *See generally* 10 CFR § 211.67 (1976).

7/ *See generally* D. Bohi and M. Russell, *Limiting Oil Imports: An Economic History and Analysis* (1978); J. Griffin and H. Steele, *Energy Economics and Policy* (1980); J. Kalt, *The Economics and Politics of Oil Price Regulation: Federal Policy in the Post-Embargo Era* (1981).

8/ *Id*.

refined products have been extraordinarily beneficial to the nation's economic health. The decline in crude oil prices in the world market, which is projected to continue throughout this decade,[9] has been passed on to the domestic economy through a competitive petroleum market unconstrained by government-imposed controls. In turn, a highly competitive petroleum market helped fuel a general economic recovery and afforded the consumer the benefit of lower refined product prices.[10]

As beneficial as these developments were for the country as a whole, they necessarily produced a period of adjustment for the refining sector. Between 1973 and 1981, the number of domestic refineries artificially ballooned from 281 to 324 and capacity increased from 13.7 MMB/D to 18.6 MMB/D.[11] With the removal of federal controls and subsidies in 1981, approximately 100 older, smaller and less efficient plants were shut down either temporarily or permanently.[12]

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[9] Annual Energy Outlook 1984, Energy Information Administration, Department of Energy (1985); World Energy Outlook, Chevron Corporation, Economics Dept., June 1985.

[10] See e.g., The New York Times, February 22, 1985 at 1 and Testimony of Professor Edward W. Erickson before the International Trade Commission, Investigation No. 332-203, March 7, 1985.

[11] U.S. Crude Oil Refining Capacity, American Petroleum Institute Basic Data Book, Vol. V, No. 1 (1985).

[12] Id.

This artificially-induced increase in capacity was also overtaken by a substantial decline in domestic demand for petroleum products. Demand for petroleum products generally is down from a 1978 high of 18.8 MMB/D to approximately 15.7 MMB/D today, while demand for gasoline which peaked in 1978 at 7.4 MMB/D has decreased to an average 6.6 MMB/D for the first quarter of 1985.[13/] The inevitable consequence of a permanent reduction in consumption is a corresponding reduction in refining capacity.

Finally, at the time of decontrol, some refiners elected to make substantial investments in new facilities capable of upgrading heavy, high-sulfur crude oils into lighter products such as gasoline. This complex processing capability was intended to take advantage of what was then a substantial differential between the cost of light and heavy crude oil and the price of light and heavy refined products. While the new facilities are highly sophisticated and efficient, their success depended upon a continuation of these price differentials. In fact, however, over the past two years,

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13/ Crude Oil and Petroleum Products Overview, Finished Motor Gasoline Supply and Disposition, Monthly Energy Review, Energy Information Administration, Department of Energy, February 1985 (hereinafter Monthly Energy Review).

light and heavy costs have tended to converage, as has the price commanded by light and heavy products.[14] The result, until very recently, has been a squeeze on refiner margins.

In recent months, however, financial performance of U.S. refiners has improved dramatically. We are confident moreover that the shake-out has ended and that the necessary core of the refinery industry will survive and prosper. For example, Ashland, one of the most vocal supporters of product import restrictions, has shown a 24.2 percent increase in earnings during the first half of 1985 over 1984.[15] Ashland CEO John Hall noted in an interview with The Oil Daily that the company's improved performance "began . . . in late February as OPEC contained its crude production, which led to a better balance between supply and demand." Mr. Hall also commented that Ashland's "[m]argins continued to rise substantially during March and April and [he is] cautiously optimistic for the remainder of the year."[16]

14/ Refiner and Gas Plant Operator Sales Prices of Residual Fuel Oil, Refiner and Gas Plant Operator Sales Prices of Petroleum Products for Resale, and FOB Cost of Crude Oil Imports From Selected Countries, Monthly Energy Review.

15/ The Oil Daily, April 24, 1985, at A-7.

16/ Id., at A-8.

Tosco, another strong supporter of import restrictions, stated in May that its "margins have improved considerably in the past 60 days and that the company expected 'sharp improvement' in second quarter results . . . ."[17] Tosco also reported the sale of its troubled refinery at El Dorado, Arkansas to Lion Oil Co.

Similarly, Valero Energy/Saber Refining is expecting to run its sophisticated 70,000 barrel per day refinery at maximum capacity as a result of investments by Saudi Arabian businessman Akram Ojjeh's Luxembourg-based company, Techniques d'Avant Garde (TAG).[18] Because of heavy debt service costs, incurred to construct the industry's most advanced, state-of-the-art facility, Saber needs to attain a minimum differential of $6 per barrel between the cost of its feedstock and the price at which it can sell its refined product.[19] The recent drop in spot crude prices undoubtedly has helped Saber's position, although it obtains most of its crude supply through a long-term contract with Venezuela.

Diamond Shamrock's refined product sales were up 9.2 percent in 1984 and downstream profits climbed 22.7 percent from 1983's $66 million to $81 million in 1984.[20/] Crown Central's losses in 1984 hid its fourth quarter gain of $13.6 million up from $7 million in the fourth quarter of 1983.

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[17] The Oil Daily, May 10, 1985, at 8.

[18] The Oil Daily, March 25, 1985, at B-19.

[19] Id.

These improvements in performance have occurred despite relatively flat trends in imports over the same period. What has changed, however, are the relative prices of crude and refined products coupled with some increase in U.S. consumption of gasoline, even at slightly higher prices. This evidence leads to the conclusion that recent levels of imports have been more a result of the domestic refining industry's problems than a cause. U.S. refiners have no need for trade barriers to protect their profit margins; they will be able to maintain adequate refining capacity without government subsidies. As shown below, trade barriers also are unnecessary to protect national security.

III. Current Refining Capacity Is Sufficient to Meet National Security Needs

The advocates of trade barriers have claimed that the reduction in domestic capacity from the artificially inflated levels of the 1970's has placed the United States on the verge of a national crisis. These claims fall totally wide of the mark and indeed have little, if any, factual basis.

[20/] The Oil Daily, March 25, 1985, at B-8.

Both Undersecretary of Energy Danny Boggs and Frederick Gerlach, of the State Department's Office of Energy Producing Countries[21/] have made clear the Administration's view that proponents of restricting products because of national security considerations have yet to prove their case. In testimony before both House and Senate Subcommittees,[22/] Boggs noted that current U.S. domestic refining capacity remains approximately equal to the entire U.S. demand for oil products.

Perhaps most important, in recent testimony before the Energy Taxation Subcommittee of the Senate Finance Committee, Undersecretary of Defense Fred Ikle indicated that there was no national security risk posed by current levels of imports. Indeed, Undersecretary Ikle warned against import barriers as a means of protecting domestic capacity because of the substantial havoc such measures wreak on the national economy and the harm they cause to American consumers.[23/]

[21/] See, Platt's Oilgram News, May 28, 1985 at 3.

[22/] See, Testimony of Danny J. Boggs, Deputy Secretary of Energy, before the Subcommittee on Environment Energy and Natural Resources, House Committee on Government Operations, April 24, 1985; and before the Subcommittee on Energy Conservation and Regulation, Senate Committee on Energy and Natural Resources, June 4, 1985.

[23/] Testimony of Fred C. Ikle, Undersecretary of Defense before the Subcommittee on Energy and Agricultural Taxation, Senate Committee on Finance, June 21, 1985; colloquy between Undersecretary Ikle and Sen. Bradley.

The facts are these: U.S. refining capacity is now approximately 15.6 MMB/D.[24] This is far more than the capacity needed to meet current demand, about 13.1 MMB/D, even if all imports were terminated.[25] Moreover, the refinery utilization rate in the U.S., at 76 percent[26] the highest since 1979, provides a comfortable cushion in the event of a disruption in the imports of foreign product. This utilization rate has increased to its current level from of a low of 68.5 percent in 1981.[27] It is now slightly higher than the average utilization rate worldwide, reflecting some decrease in worldwide overcapacity and the equalizing effect of international competition.

While much has been made of the potential threat to U.S. refiners from newly-constructed refineries in the Persian

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24/ Id. The independent refiners cite substantially lower figures, but provide no source for their data beyond "our figures." See John Hall, "Imports Could Kill the Refining Industry," The New York Times, June 23, 1985.

25/ F. Fesharaki and D. Isaak, The Changing Structure of World Refining Industry: Implications for U.S. Energy Security, Resource Systems Institute, East-West Center (1985) (hereafter East-West Center Study).

26/ Platt's Oilgram News, May 16,1985 at 3.

27/ Lundberg Letter, Vol. XI, No. 23, March 23, 1984.

Gulf, including a refiner-sponsored study by Pace Co.,[28] these concerns are unwarranted. The Pace study has taken a number of unlikely assumptions and combined them to draw the conclusion that domestic refiners will suffer grave consequences from the new OPEC refinery capacity absent high barriers to imports.

The study begins by assuming that the U.S. is the only market in the world open to imports of refined products and that the new Middle East refineries will operate continuously at maximum capacity. Based on these self-serving assumptions, the study concludes that imports of gasoline and middle distillates from all sources could reach between 12 and 13 percent of total U.S. demand by 1990, depending on the country's level of economic activity.[29] Upon examination, it is clear that these assumptions are faulty.

First, the total capacity of the new refineries is only 800,000 barrels per day, approximately 5 percent of U.S. consumption.[30] Furthermore, in a world of excess refinery capacity, it is unlikely that these new plants would operate at maximum capacity. In addition, although some of these facilities were designed originally to produce only product for export, at least one Arab OPEC nation has shelved plans to construct refineries designed solely for domestic production, indicating a clear recognition of the level of overcapacity worldwide.

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[28] "The Effect of Increasing Petroleum Product Imports on the United States Refining Industry," The Pace Co., May 30, 1985.

[29] *Id*. at Table 6.

[30] East-West Center Study.

Second, it is unlikely that OPEC producers would be able to penetrate the refined products market without undercutting the price and production quotas established for the primary OPEC commodity -- crude oil. Many experts believe that OPEC's push into the products market may undermine both its short- and long-term interest in the stability of the crude markets.[31] Ultimately, the price of crude would be forced to drop to lower levels, benefiting non-OPEC refineries and ultimately world consumers.

Third, the chances of Europe's completely closing its doors to product imports are slim. In addition, Japan is being urged both by the U.S. and OECD nations to open its markets to refined products. Recent press reports also indicate that officials of Saudi Arabia's Petromin, which supplies a substantial quantity of crude to Japan, have met with Japanese officials to encourage their participation in the products market. There are indications that some liberalization in Japan's policy may be seen by early to mid-1986.[32]

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[31] Oil & Gas Journal, May 27, 1985 at 25.

Finally, the new OPEC capacity is far more likely to displace less efficient, foreign refineries than U.S. capacity. The most probable victims of the new Middle East facilities are the so-called class "C" refineries -- those that depend upon imported crude oil for feedstock and on export sales of products in foreign markets -- including plants in Aruba, Curacao and Singapore. The closing of these older and less sophisticated refineries will reduce the worldwide oversupply of capacity and enhance the efficiency of the global refining market. Complex, efficient and sophisticated U.S. refining capacity will be well positioned in this competitive environment.[33]

IV. Current Import Suppliers Are Friendly U.S. Trading Partners

The refiners' national security case is premised on a scenario in which all product imports would be terminated --an

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32/ Platt's Oilgram News, May 23,1985 at 1.

33/ East-West Center Study.

utterly remote possibility. The vast majority of imports -- about 98 percent -- are supplied by friendly U.S. trading partners. A massive disruption in product imports is, therefore, unlikely. Perhaps more important, however, is the fact that the imposition of protective measures could have significant repercussions on otherwise positive U.S. international trade relations.

Current imports are supplied by approximately 40 countries.[34/] Thirty-seven percent of all imports come from U.S. possessions or U.S.-owned refineries in the Caribbean.[35/] Almost 21 percent are imported from other OECD nations, with the Netherlands and Canada accounting for over 15 of the 21 percent. Venezuela supplies the U.S. with about 15 percent of total product imports. Only 2 percent, or 0.2 percent of U.S. consumption is supplied from Persian Gulf OPEC nations.[36/] As noted, even with new onstream OPEC capacity, this percentage is unlikely to increase significantly.

Erecting protectionist import barriers will send inappropriate signals to the rest of the world. The general

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[34/] *Id*.

[35/] *Id*. and Independent Refiners Coalition data.

[36/] *Id*.

dislocation in world oil markets that would result if the world's largest product consumer were to close its doors would be directly and properly attributable to a heretofore discredited policy of protecting a small segment of the U.S. petroleum industry from international competition. Bilateral trade relations with major product suppliers such as Canada, Mexico, and China, on whom we also depend for supplies of crude oil,[37] could be significantly impaired, placing at risk critical supplies of imported crude oil.

V. Proposed Product Import Barriers Will Cause Serious Injury to U.S. Consumers and the U.S. Economy

Legislation introduced in the House of Representatives would increase gasoline and blendstock tariffs by more than 9¢ per gallon. Should Congress adopt a tariff of this magnitude, many if not all current gasoline imports will likely be barred in order to prop up a few U.S. refiners who might ultimately be faced with reducing gasoline production or closing marginal plants. The consequences of these actions for U.S. consumers, however, are substantial and entirely adverse.

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[37] In testimony before the Senate Subcommittee on Energy Taxation, Undersecretary of Defense Ikle noted that fully one-half of the crude oil imports on which the Pentagon relies come from our allies in the Western Hemisphere. Testimony of Fred C. Ikle, Undersecretary of Defense, Before the Subcommittee on Energy and Agriculture Taxation, Senate Committee on Finance, June 21, 1985.

It has been estimated that every penny added to the price of gasoline through increased tariffs represents an additional $1 billion in direct costs at the pump. Thus an increase of 9¢ per gallon amounts to a $9 billion economic burden on the nation as a whole.

Prohibitive tariffs carry other hidden and indirect costs as well: waste of crude oil, higher capital and other input costs and a generally inefficient economic allocation of resources. In economic terms, the misallocation will result in a "consumption loss" because a higher-priced domestic product will be substituted for a lower-priced import. Essentially, the economy would be getting less value for its money.

At the same time, the economy will suffer a "production loss" because resources will be allocated to higher cost production and away from the lower cost production of alternative goods. Employing domestic resources in areas where others may have a comparative cost advantage reduces the nation's ability to produce lower-cost goods for domestic consumption and export and lowers the country's real income.

The serious consequences of artificial distortion of energy markets are well-known. Because energy plays such a key role in the economic system, a highly competitive market helps to keep inflation down. By the same token, an artificially constrained market will fuel inflation and prevent real economic growth.

These entirely negative economic consequences must be avoided unless a clear risk to the national security has been shown. That is not the case here. The facts simply do not support the conclusion that product imports pose a risk to the national security or that curtailing such imports would in any way improve the national well-being.

VI. The Need for a Rational Tariff Classification for Motor Fuel Blending Stocks

The Companies strongly support the rationalization of the tariff classification of motor fuel blending stock in a manner that recognizes the commercial realities of its use in the manufacture of motor gasoline. Therefore, they support H.R. 2396 which adopts the ITC's recommendation[38/] to establish a separate tariff classification for motor fuel

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[38/] Final Report on Investigation No. 332-203 Under Section 332(g) of the Tariff Act of 1930, Possible Effects of and Recommendations Concerning the Proposed Tariff Reclassification of Catalytic Naphtha and Other Motor Fuel Blending Stocks, International Trade Commission, April 1985 (hereinafter "ITC Report").

blending components based on the actual use of the commodity in the manufacture of gasoline and establishes a duty for these commodities at 1.25¢ per gallon.

A. The Need for Reform

Under the present classification regime, a commodity which qualifies as "motor fuel" is dutiable at 1.25¢ per gallon under TSUS item 475.25. Before 1983, Customs classified most motor fuel blending stocks under the motor fuel provision. In 1983, however, the Customs Service suddenly took the position that a petroleum commodity would be classified as "motor fuel" only when it met the current ASTM standards for automotive gasoline set out in D-439.[39/]

The Customs Service's position has meant that gasoline blending stock which fails to qualify as "motor fuel" under ASTM standards may be dutiable at a much higher rate, depending upon its additives and unique chemical composition. As noted in the ITC Report, the change resulted in "the scattering of the so-called blending stocks to other parts of the TSUS, in all cases at significantly higher duty rates."[40/]

[39/] See T.D. 83-173 (August 17, 1983).

[40/] ITC Report at 53.

This anomaly creates substantial uncertainty for an importer who often cannot know in advance the precise chemical composition of the commodity he has purchased and therefore the classification and duty Customs will apply. As far as the importer is concerned, the commodity is being imported only for use as a motor fuel blending stock. Nevertheless, depending on its compositon, such gasoline components may be classified as tetraethyl lead under item 429.70, TSUS, at a rate of 12.4 percent _ad valorem_; as a lead mixture under item 432.10, TSUS, at a rate of 9.6 percent _ad valorem_; or as a benzenoid chemical under items 407.16 and 402.36, at a rate of .8¢ per pound plus 17.3 percent _ad valorem_.

The _Tariff Schedules_ should be amended to eliminate these inconsistencies and to avoid irrational and anomalous classifications and duty rates. This reclassification should ensure, first and foremost, that motor fuel blending components are treated as petroleum products under Part 10, Schedule 4, TSUS. H.R. 2396 would achieve this result with the additional benefit that the duty rate applied to motor fuel blending stock would be directly related to its role in the manufacture of gasoline.

B. The Benefits of H.R. 2396

In recommending the provision incorporated by Representative Matsui in H.R. 2396, the ITC found that the creation of a separate classification for motor fuel blending stock based on actual use would comport with the historical treatment of such commodities as it existed before the Customs Service took its current position. In addition, the Customs Service would be able to apply the "actual use" requirement in a straightforward and certain manner. Finally, the ITC noted that a similar provision had garnered the support of the Departments of Commerce, Energy and Treasury, the Customs Service, the Office of the Special Trade Representative, as well as the ITC itself, when it was introduced in the 98th Congress.

VII. Conclusion

When the independent refiners began their campaign for protectionist subsidies, there was a general consensus that they would have a heavy burden to demonstrate the need for such controls. They have failed to make their case.

There is a clear need, however, to rationalize the customs treatment of motor fuel and blending components. The Commenters urge the Subcommittee to support H.R. 2396 and similar legislation, and to reject efforts to use tariff rationalization to curtail refined petroleum product imports.

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URVAN RUIZ STERNFELS
PRESIDENT

July 11, 1985

Honorable Bob Packwood, Chairman
Senate Finance Committee
United States Senate
Washington, DC 20510

Re: June 21 Hearing on Domestic Energy Policy

Dear Chairman Packwood:

The National Petroleum Refiners Association appreciates this opportunity to offer comments on taxes and domestic energy policy as discussed at the Finance Committee hearing June 21, 1985.

NPRA is the major trade organization representing both the domestic refining and petrochemical manufacturing industries. We must register concern with the accelerated rate at which refineries in the United States have been shut down in the last several years and the prospects for a continuation of this unhealthy trend in the foreseeable future. Since 1981, nearly 130 refineries, comprising over three million barrels per day of capacity, have ceased operations. Further loss of domestic refining capacity, if unchecked, has grave implications for the economic well-being and national security of the nation.

The Congress is now considering various funding schemes to reauthorize the Comprehensive Environmental Response, Compensation annd Liability Act. NPRA recognizes that the cleanup of hazardous waste sites is a major national problem requiring the best efforts of industry and government. We believe the burdens of funding a national cleanup program, moreover, should be fairly distributed. Because of world-wide competitive pressures, refiners and chemical manufacturers cannot--despite the expectation of the present CERCLA--pass on the Superfund tax; as a result, the tax fails to reach the manufacturers of derivatives, the major disposers of hazardous waste. Relying solely on feedstock taxes on petroleum refiners and chemical manufacturers unfairly places the greatest burden on industry sectors which, due to these competitive pressures, can least afford to bear it. It is our position that the reauthorized Superfund tax program should not increase the petroleum and feedstock taxes already being paid by refiners and chemical manufacturers. To do so would unfairly burden our domestic industries, as foreign manufacturers are not subject to these taxes.

As you know, this country has long been dependent on crude oil imports for a sizeable portion of its energy needs. Relatively minor disruptions in the recent past have caused havoc in very sensitive areas of our economy. A rapid shift of dependence to the importation of petroleum products, particularly light products such as motor gasoline, is underway and promises to render this nation more vulnerable to the threat of energy disruptions of even greater proportions. If the erosion of the domestic refining industry is allowed to continue unimpeded, our vital energy needs will no longer be met within our borders, or by our friendly neighbors. The very purpose of maintaining the Strategic Petroleum Reserve, intended as a buffer against a crude oil import disruption, would be materially impaired if domestic refining capacity continues to dwindle.

The U.S. is a preferred marketplace for foreign products because of a very strong currency and a large appetite for consumer products. There has been very little recognition by the government of the importance of a viable domestic refining industry. United States policy does not restrict foreign refineries from exporting petroleum products to us. Indeed, legislation was proposed in the last session of Congress to make importation of products even easier, through amending existing tariffs.

We think it should be recognized that many of the continuing difficulties encountered by domestic refiners have been created by U.S. Government policy. It is essential that the United States government send a clear message that future policy will assure that our domestic refining capacity will not be allowed to decline below a level dangerous to national security. Therefore, the following is recommended:

- Our import control system must be examined in light of a multiplicity of import restrictions in Europe, Japan, and other marketplaces for petroleum products so that U.S. refiners are not unfairly disadvantaged.

- The U.S. Government must review tariff levels and clarify existing tariffs on naphtha, gasoline, gasoline blending stocks, and alcohol to insure that these products enter into the U.S. at duty rates which the Congress intends. In the course of such a review, access to foreign petrochemical feedstocks should be maintained at current tariff levels.

- The U.S. Customs service should act in assuring tighter, more effective and consistent enforcement of tariff schedules with increased surveillance of imported product specifications to assure that the proper tariff rate is applied.

- Some combination of increased tariffs and quotas might ultimately be implemented, dictated by national objectives, with the goal of maintaining a secure domestic refining industry.

Thank you again for the opportunity of addressing these most important subjects. My staff and I stand ready to assist you in any way we can as you deliberate on these issues.

Very truly yours,

Irwin R. Sternfeld

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THE EFFECT OF INCREASING PETROLEUM PRODUCTS IMPORTS ON THE UNITED STATES REFINING INDUSTRY

Prepared For

INDEPENDENT REFINERS COALITION

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June 1985

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OVERVIEW

In the latter part of the 1970s, worldwide demand for refined products increased at a faster rate than economic growth. This resulted in pressure upon the entire system and caused extensive investment in new refinery capacity, particularly in the Middle East crude exporting countries. These expansions were undertaken based on a desire to expand the countries' economic base and the belief that to realize all of the profit potential from crude oil, the producers must integrate forward to the market, much in the same way that the major established oil companies had done previously.

The actual decline in demand for refined products in the first half of the 1980s contrasts with the expansion in demand of the 1970s. Those refiners who expanded, planning to capture export business, face a bleak future if they expect to compete with indigenous refiners on a true free market basis. The excess capacity of the new export refiners created problems for their investors and existing indigenous refiners.

Pressure on United States refineries has increased recently as total demand for refined products has dropped. United States refiners responded to this pressure by shutting down capacity (rationalizing). The current problem facing the United States refining industry is not the result of declining product demand; it is increasing penetration of product markets by imports—principally from new Middle East export refineries.

The Pace Consultants has been retained by the Independent Refiners Coalition (IRC) to assess the effect of increasing exports on the United States refining industry. This assessment is based on the following assumptions as outlined by the IRC:

- Japan will not allow any imports of gasoline.
- Imports of refined products into Western Europe from outside continental Europe will not be permitted to exceed 7 percent of total demand for refined products.
- Middle East refining capacity will run at maximum utilization of conversion units.

In Pace's judgment, these assumptions are reasonable.

Following are the major conclusions, presented in highlight form, regarding these export refiners and the effects that they will have on the United States refining industry.

CONCLUSIONS

NEW EXPORT REFINERIES IN THE MIDDLE EAST WILL PRODUCE LIGHT PRODUCTS FOR EXPORT

The expansion of refinery capacity in the Middle East is designed to produce light petroleum products such as gasoline and middle distillate (jet fuel, kerosene, diesel fuel, and light heating oil). There is not a large local market for these additional products; thus, they will be exported.

THE MAIN TARGETS OF MIDDLE EAST LIGHT PRODUCT EXPORTS WILL BE ASIA, WESTERN EUROPE, AND THE UNITED STATES

The target for export from the Middle East will be the large markets for refined products found primarily in Japan, Western Europe, and the United States. Other countries will also absorb some of the exports, but the combination of small markets and protectionist policies will tend to limit entry into those markets.

RESTRICTIONS ON IMPORTS OF REFINED PRODUCTS INTO WESTERN EUROPE AND JAPAN WILL MAKE THE UNITED STATES MARKET THE PRINCIPAL TARGET FOR NEW MIDDLE EAST EXPORT REFINERIES

With the current tariff, the refined products market in the United States will be the only unrestricted major market in the world. As such, Middle East product exports will penetrate and expand market share.

RUNNING MIDDLE EAST REFINERIES AT FULL CAPACITY WILL PRODUCE SIGNIFICANT VOLUMES OF LIGHT REFINED PRODUCTS TO EXPORT

Running Middle East refineries at high utilization rates will produce products far in excess of regional demand. Based on the assumption of high utilization of refining capacity, exports of major light refined products are expected to be 617,000 barrels per day of gasoline and 756,000 barrels per day for distillates (kerosene, jet kerosene, distillate fuel oil) in 1986, increasing to 752,000 barrels per day of gasoline and 1,075,000 barrels per day of distillate by 1990.

REFINED PRODUCTS IMPORTED INTO THE UNITED STATES REPRESENT A SIGNIFICANT PORTION OF TOTAL DEMAND IN THE FUTURE IF OTHER KEY MARKETS IMPOSE IMPORT RESTRICTIONS

Based on assumed high utilization of new Middle East refinery capacity and restricted entry into European and Japanese markets, imports of refined products into the United States will be high. The imports of refined products are expected to be 1,049,000 barrels per day of major light products (gasoline and distillate)—9.8 percent of demand—in 1986 and 1,301,000 barrels per day (12.6 percent of demand) in 1990, versus 1982 and 1983 at 2.2 and 3.7 percent of demand, respectively.

ASSUMING NO TRADE BARRIERS ELSEWHERE, IMPORTS OF REFINED PRODUCTS INTO THE UNITED STATES WILL STILL REPRESENT A SIGNIFICANT PORTION OF TOTAL DEMAND

Even in the absence of trade barriers elsewhere, and even if Middle East refiners run at less than maximum capacity, imports of refined products in the United States will capture a significant share of total demand. Based on this "free market" scenario, the major light products imports (gasoline and distillates) will be 536,000 barrels per day (5 percent of demand) in 1986 and 640,000 barrels per day (6.2 percent of demand) in 1990.

BASED ON NON-FREE MARKET ASSUMPTIONS, IMPORTS OF REFINED PRODUCTS WILL RESULT IN SHUTDOWN OF OVER 1,400,000 BARRELS PER DAY OF REFINING CAPACITY IN THE UNITED STATES BY 1990

Increasing refined products imports will result in loss of market by domestic refiners. In the absence of trade barriers, United States refiners will be forced to reduce crude capacity utilization by over 1,400,000 barrels per day in 1990. This drop in crude capacity utilization will result in refinery shutdowns in excess of capacity utilization, since it is impossible to run refineries at 100 percent of capacity over a prolonged period.

UNITED STATES REFINERY SHUTDOWNS DUE TO INCREASED IMPORTS WILL RESULT IN LOSS OF 42,000-63,000 JOBS

The shutdown of over 1,400,000 barrels of refinery capacity can be expected to result in the loss of 3,000 to 4,000 jobs directly involved in refining and 39,000 to 59,000 other jobs.

INCREASED PRODUCT IMPORTS WILL GREATLY REDUCE UNITED STATES REFINERY PROFITABILITY

United States refiners' gross margins—the difference between product revenue and cost of feedstock—will drop over $0.90 per barrel under the effect of increased imports in 1986. This translates to reduced profits to the United States refining industry as a whole of approximately $4 billion per year.

UNITED STATES REFINERS WILL HAVE DIFFICULTY FINANCING INVESTMENTS SUCH AS THOSE NEEDED TO MEET GOVERNMENT REGULATIONS ON THE PHASEDOWN OF LEAD IN GASOLINE

United States refiners have been experiencing a long period of low gross margins and have had difficulty obtaining financing. Increasing penetration of imports into the refined products market will further reduce operating margins. This will make it more difficult for refiners to obtain the financing necessary to make any new investment required to remain viable.

REFINING CAPACITY SHUT DOWN DUE TO INCREASING PRODUCT IMPORTS WILL BECOME LOST, NOT STANDBY CAPACITY

Refining capacity which is shut down, especially if it involves an entire refining complex, can be expected to deteriorate from restartable to unusable capacity in about 2 years. Loss of refining capacity reduces the availability of a secure source of refined products. Refining capacity that is down for periods of less than 2 years would require investments of $200 to $500 per barrel of capacity for equipment repair, catalyst replacement, etc., to start up. Such a startup would require 3 to 6 months to complete. Additionally, refiners who eliminate working inventory during shutdown would also require reinvestment of $1,500 to $2,000 per barrel of capacity to reestablish inventories.

INCREASED IMPORTS OF REFINED PRODUCTS FROM THE MIDDLE EAST WILL MAKE THE UNITED STATES MORE ECONOMICALLY AND STRATEGICALLY DEPENDENT ON AN HISTORICALLY UNSTABLE AREA

The Middle East region has been referred to by the United States government as an "Arc of Crisis." Within the past 12 to 13 years two Middle East supply disruptions have had serious impacts on United States energy supplies and prices. These were crude supply disruptions. With increasing reliance on the Middle East for refined products supply, the effects of future disruptions will be magnified.

MOST SUPPLIES OF REFINED PRODUCTS FROM THE MIDDLE EAST MUST PASS THROUGH A VITAL STATEGIC CHOKE POINT, THE STRAIT OF HORMUZ

Shipments of refined products out of the Arabian/Persian Gulf must pass through the Strait of Hormuz, a narrow entrance into the Arabian Sea which could be subject to relatively easy military blockade or sabotage in time of crisis.

INCREASING RELIANCE ON IMPORTED PRODUCTS WILL TEND TO NEGATE THE STRATEGIC VALUE OF THE UNITED STATES' $30 BILLION INVESTMENT IN THE STRATEGIC PETROLEUM RESERVE

The Strategic Petroleum Reserve is designed to store crude oil for use in times of supply restriction. As the United States increases imports of refined products and shuts down refineries, the reserve becomes of less value since refining capacity is needed to turn the crude into refined products. In the event of severe disruption of imports in 1990, it is conceivable that the United States could be 1.2 to 1.4 million barrels short of refined products regardless of the size of the Strategic Petroleum Reserve.

MIDDLE EAST EXPORT REFINERIES CANNOT COMPETE WITH INDIGENOUS UNITED STATES REFINERIES ON A FREE TRADE BASIS

The cost of delivered refined products, derived on an equal crude cost basis, would be higher from a Middle East export refinery than from a United States refinery. The cost of transporting refined products over long distances is significantly higher than transporting crude over the same distance. In addition, the capital cost of building refineries in the Middle East is about 60 percent greater than in the United States.

NEW MIDDLE EAST EXPORT REFINERIES WILL PENETRATE UNITED STATES MARKETS USING PRICE SUBSIDIES

Since Middle East export refiners cannot compete with indigenous refiners on a free trade basis, they will enter United States markets by providing the crude to their own refineries at or below cost. Thus they will differentiate between the transfer price of crude used to make export products and crude sold for export. United States refiners will be required to pay a higher price for the same crude.

SUMMARY

BACKGROUND AND BASIS

Worldwide energy demand, and in particular petroleum product demand, grew rapidly in the 1970s. This growth was due to high economic growth rate and declining real energy prices. During 1979, crude oil prices increased due to a supply disruption caused by the Iranian Revolution. The combination of increasing prices for refined products, inflationary crude oil price increases, and high demand for refined products resulted in high profits for refiners worldwide. This led some of the major crude producers to believe that they were entering a golden era in which profit potential was almost unlimited. In an effort to capitalize on what they perceived as a high profit area, many decided to integrate forward into refining. Thus a rapid expansion of export refinery capacity was planned and is currently in the final stages of completion.

The expansion of refinery capacity planned in the late 1970s and early 1980s represents a bullish view of worldwide refined products demand in the 1980s. Unfortunately, these demands haye not materialized. In eontrast to the high demand growth for refined products in the last decade, demand has decreased during this decade. This recent drop is a result of the 1981 to 1983 worldwide economic recession and consumer response to rapidly increasing energy prices.

The primary factor controlling future energy consumption is economic activity. However, the amount of energy associated with a given level of economic activity is also a function of price. The basic premise of the Pace methodology for forecasting world economic activity is that the United States economy exerts a dominant influence. The linkage occurs through interest rates, with short-term rates in the United States determining rates throughout World Outside Communist Areas (WOCA) and hence economic growth everywhere.

Pace utilizes a macroeconomic model of the United States economy developed by a Pace subsidiary, Management Technologies, Inc. (MTI). The model uses the concept of "system dynamics," and is based on mathematical procedures developed for modelling feedback control systems. The economic forecast based on the MTI model is shown in Figure 1 for the United States. Also included is a Trend forecast which is based on a consensus of normal trend forecasters' methods. The basic Pace economic forecast, referred to throughout this report as the Cyclical forecast, shows a recession occurring in 1987 with a slow recovery through 1990, followed by rapid economic growth in the 1991 to 1995 period. In contrast, the Trend case shows a fairly steady growth rate throughout the period.

The forecast of world energy demand by type based on these economic forecasts is shown in Figure 2. The forecast indicates the following:

TABLE 1

MIDDLE EAST REFINING CAPACITY
(Thousand Barrels Per Stream Day)

	Capacity as of 1/1/84	Capacity as of 1/i/85	Additional Capacity 1985-1986	Capacity for 1986	Additional Capacity Post 1986	Capacity for 1990	Average Annual Growth Rate 1985-1990
Crude, Atmospheric Distillate	3,571	3,740	786	4,526	845	5,371	7.5
Crude, Vacuum Distillate	746	797	437	1,234	120	1,354	11.2
Catalytic Crackers	74	80	96	176	-	176	17.0
Catalytic Reforming	284	327	58	385	72	457	6.9
Hydrocrackers	232	273	146	419	-	419	8.9
Delayed Coker	19	19	60	79	-	79	36.0
Visbreaker	191	207	97	304	39	343	10.6
Atmospheric Residuum Desulfurization	34	108	132	239	-	239	17.2

TABLE 2

MIDDLE EAST REFINED PRODUCTS DEMAND
(Thousand Barrels Per Day)

	Gaso-line	Jet/ Kerosene	Distil-late	Resi-dual	All Others	Products
Actual						
1982	274	227	303	591	209	1,604
1983	296	238	314	573	210	1,631
Short Term						
1985	344	245	370	671	244	1,885
Cyclical Case						
1986	345	233	375	668	255	1,876
1987	342	223	370	654	242	1,831
1988	350	221	376	656	247	1,850
1989	371	226	396	681	258	1,932
1990	383	226	405	688	265	1,967
Average Annual Growth Rate, % (1985-1990)	2.1	(1.6)	1.8	0.5	1.7	0.9
Trend Case						
1986	355	240	387	690	255	1,927
1987	375	244	409	722	266	2,016
1988	399	251	435	759	281	2,125
1989	422	257	459	792	295	2,225
1990	444	261	481	821	307	2,314
Average Annual Growth Rate, % (1985-1990)	5.2	1.3	5.4	4.1	4.7	4.2

TABLE 3

MIDDLE EAST DEMAND, PRODUCTION, AND EXPORT OF MAJOR LIGHT REFINED PRODUCTS*

(Thousand Barrels Per Day)

	1986	1990	
	Cyclical	Cyclical	Trend
Gasoline			
Production	962	1,135	1,215
Demand	345	383	444
Net Exports	617	752	771
Kerosene/Jet Kerosene			
Production	317	362	371
Demand	233	226	261
Net Exports	84	136	110
Distillate Fuel Oil			
Production	1,047	1,344	1,439
Demand	375	405	481
Net Exports	672	939	958

*Assumes maximum utilization of heavy oil conversion units

FIGURE 1
UNITED STATES GDP

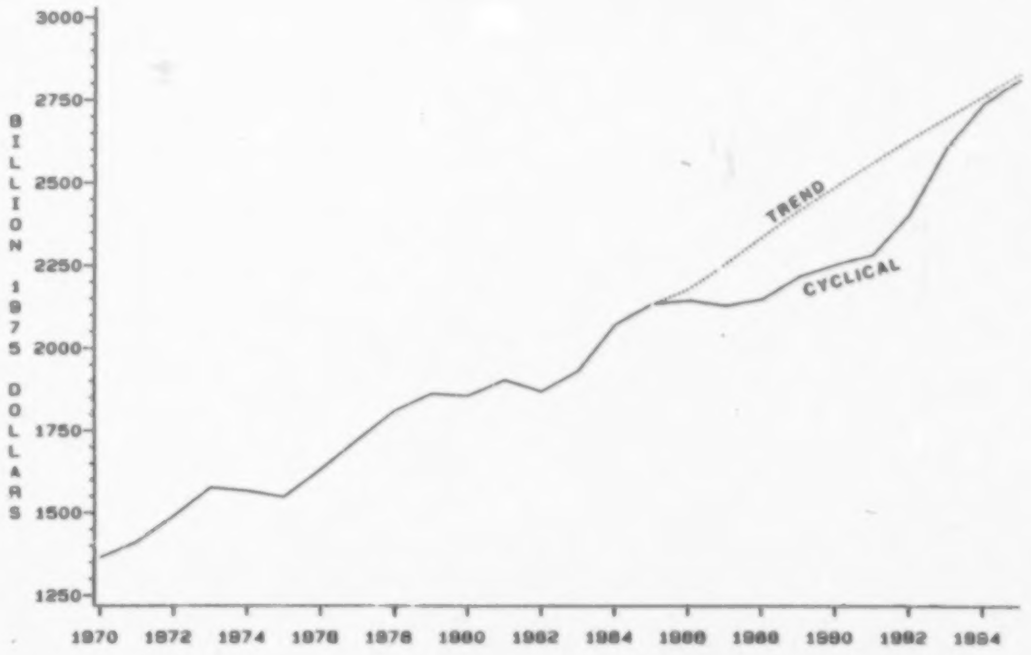

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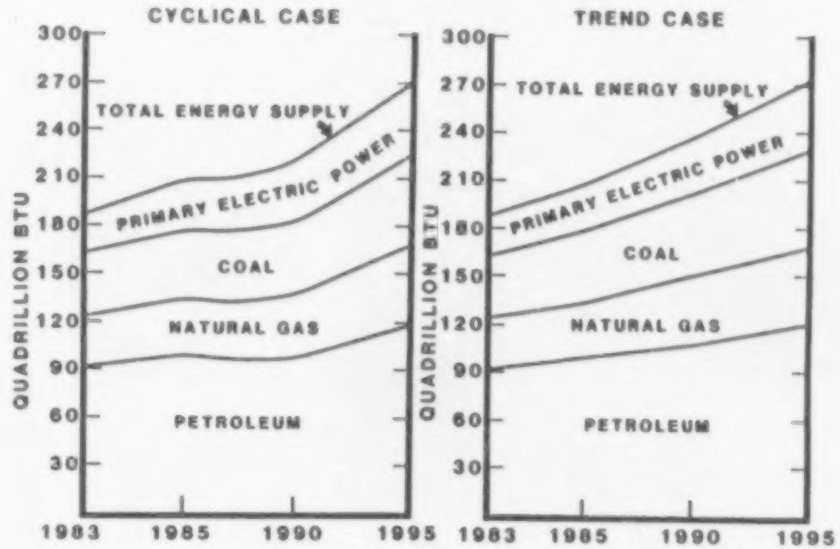
FIGURE 2

WOCA ENERGY SUPPLY BY FUEL TYPE



- Since energy demand is largely a function of economic activity, demand for energy in the Cyclical case shows very low growth in the 1986 to 1990 period, with a sharp increase between 1990 and 1995.
- While petroleum will remain the largest single source of energy, its percent of total use will continue to decline. In contrast is the increased use of coal and primary electric power (nuclear, hydropower, etc.). This increase reflects a worldwide trend for increased electrical use.

The refined product demand for WOCA, shown in Figure 3, indicates the following:

- Demand for refined products will not reach its 1979 peak until after 1990 in the Cyclical case and 1989 in the Trend case.
- Distillate will show a significant increase in demand, becoming the largest single demand by 1995.

Middle East Export Refineries

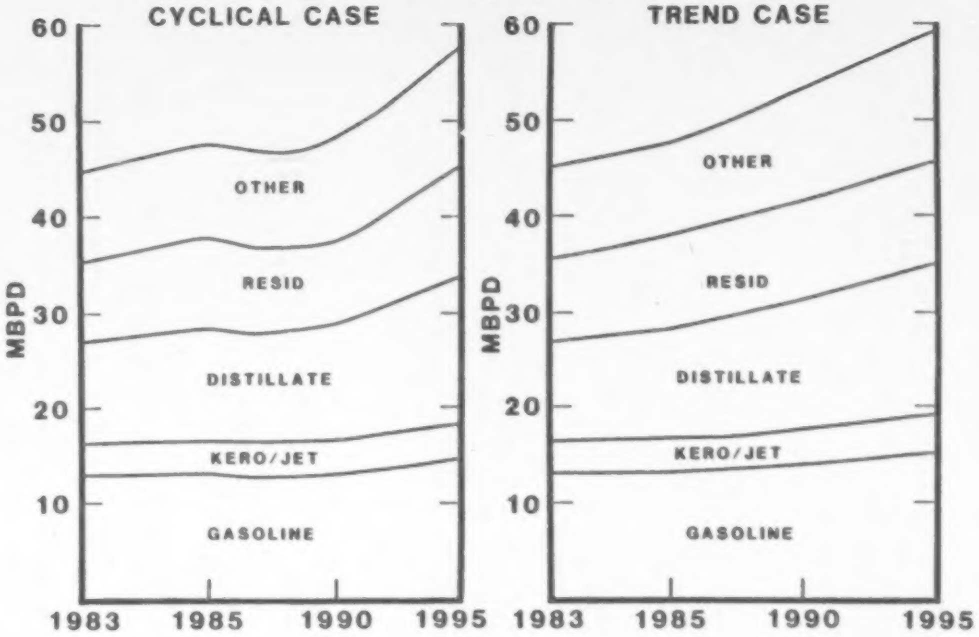
The expansion in export refinery capacity has centered on crude exporting countries in the Middle East, principally in Kuwait and Saudi Arabia. Table 1 shows existing refinery capacity at the beginning of 1984 and 1985 as well as planned expansions which will be onstream by mid-1986 and later. Middle East demands for refined products, actual and forecasted, are shown in Table 2. As can be seen, growth in refinery capacity occurs at a faster rate than growth in demand for refined products both in the Cyclical and the Trend cases. Since the growth in refining capacity is skewed toward the next few years, the near-term increase is much greater than over the entire 1985 to 1990 period.

The purpose of refinery expansion in the Middle East is to export refined products and not merely to meet increasing regional demand. The large increase in heavy oil conversion units such as catalytic crackers, hydrocrackers, delayed cokers, and visbreakers indicate that these refiners plan to produce significant volumes of light products (gasoline, jet fuel, distillate fuel oil) from heavy feedstock. In the absence of these conversion units, the heavy feedstock would be either blended and sold as heavy fuel oil, sold as a refinery feedstock to other refiners with conversion units, or not produced.

Based on assumptions made by the Independent Refiners Coalition, it is assumed that conversion units in these export refineries will run at maximum throughput. The volume of major products produced and exported at maximum capacity utilization is shown in Table 3. If the refineries run at maximum capacity (a reasonable assumption) light product exports will increase while there is a glut of light products on the world market. Exporters of crude and products who expand the supply of refined products in a demand-limited market

FIGURE 3

WOCA REFINED PRODUCTS DEMAND



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not only risk downward pressure on their product revenues but also on their crude revenues. In a completely free market situation, expensive new export refineries would be delayed and/or cancelled and those already completed would run at a minimum rate.

MARKETS FOR EXPORTING REFINED PRODUCTS

Export refiners producing light products will tend to target their market to the major consuming regions/countries. The current and future market demands for refined products are dominated by the United States, Western Europe, and Japan.

Total United States, Japan, and Western Europe
Demand for Major Light Refined Products
(Percent of WOCA Total)

			1986	1990	
	1982	1983	Cyclical	Cyclical	Trend
Gasoline	76	76	74	71	69
Middle Distillate*	66	66	65	65	63

*Jet fuel, kerosene, and distillate fuel oil

While the new refiners in the Middle East will attempt to sell products in all of these markets, the IRC has assumed that two (Japan and Western Europe) of the three markets will present barriers to completely free trade in refined products. Under this assumption the United States will become the target of exporters not only to absorb a "reasonable" share of the exports but also to absorb any excess supply which is above that set by trade barriers of Japan and Western Europe.

Historically, no gasoline has been imported into Japan, and it is assumed that none will be in the future. Table 4 shows a historical and forecasted supply/demand balance of light major refined products for Japan assuming continued restrictions on importation of gasoline. This forecast assumes that, with the exception of gasoline, Japan would share in the increased exports from new Middle East export refineries. If Japan continues to prohibit importation of gasoline, additional gasoline exported from the Middle East refineries will have to be absorbed by others. If Europe also presents trade barriers to refined products, more export gasoline is likely to find its major outlet in the United States.

TABLE 4

JAPAN DEMAND, PRODUCTION AND IMPORTS OF MAJOR LIGHT REFINED PRODUCTS

(Thousand Barrels Per Day)

			1986	1990	
	1982	1983	Cyclical	Cyclical	Trend
Gasoline					
Demand	609	616	656	686	757
Net Imports*	0	0	0	0	0
Middle Distillates (Jet/ Kerosene, Diesel, Gasoil)					
Demand	1,158	1,189	1,187	1,172	1,304
Net Imports	49	51	101	124	186

*In the absence of future import restrictions, Japan could be expected to import the following volumes of gasoline from the Middle East: 32 MBPD in 1986 and 1990 Cyclical and 47 MBPD in 1990 Trend.

The European Economic Community (EEC) has shown interest in limiting future imports of refined products. This is a direct result of the projected large-scale export of products from the Middle East to Western Europe. In preliminary documents published by the EEC, they appear to be considering limits on net imports from outside continental Europe to no more than 7 percent of total demand. The IRC has assumed that this barrier will be enforced and will apply to all of Western Europe. Based on this barrier, Western Europe demands and net imports, from outside continental Europe, of major refined light products have been developed (Table 5). Table 5 also shows a scenario with no import restrictions in Western Europe.

In this analysis, it has been assumed that if Japan and Western Europe place barriers to imports of light petroleum products, the imports barred from these regions will all be absorbed by United States markets, in the absence of any United States trade restrictions. This is reasonable in light of the large United States market for refined products and the strong tendency of developing countries to restrict imports of refined products.

EFFECTS OF IMPORTS ON UNITED STATES REFINING INDUSTRY

Increased imports of refined products will have a direct impact on the United States refining industry by reducing the available market for domestically produced refined products. Demand and net imports of major refined products are shown in Table 6. Net imports are shown for two cases:

- **High Imports**—Based on a world trade balance in which Japan and Western Europe establish trade barriers and United States has no trade barriers. United States is assumed to absorb all exports which are in excess of the "free trade" case for Western Europe and Japan. Middle East export refineries are running at maximum conversion capacity.
- **Medium Imports**—Assumes no future trade barriers in Western Europe and Japan. Middle East refineries run at about 70 percent utilization of capacity. This is a "free trade" case.

Under these import scenarios, the utilization of United States refining capacity will decline compared to no imports of major light refined products. The effects of these imports have been analyzed using refinery modelling techniques.

The amount of refinery capacity utilized in the United States is shown in Table 7, based on the following scenarios:

- High imports of light refined products
- Medium imports of light refined products

TABLE 5

WESTERN EUROPE (OECD) DEMAND, AND IMPORTS (FROM OUTSIDE CONTINENTAL EUROPE) OF MAJOR LIGHT REFINED PRODUCTS

(Thousand Barrels Per Day)

			1986	1990	
	1982	1983	Cyclical	Cyclical	Trend
Motor Gasoline					
Demand	2,406	2,427	2,564	2,649	2,763
Net Imports if Restricted	(80)	(107)	57	99	87
Net Imports if Unrestricted	(80)	(107)	70	140	132
Jet/Kerosene					
Demand	491	463	477	478	508
Net Imports if Restricted	(31)	(44)	(19)	(16)	(15)
Net Imports if Unrestricted	(31)	(44)	(19)	(16)	(15)
Distillate Fuel Oil					
Demand	3,839	3,857	4,035	4,035	4,442
Net Imports if Restricted	(15)	29	30	45	87
Net Imports if Unrestricted	(15)	29	36	63	133

TABLE 6

UNITED STATES DEMAND AND IMPORTS OF MAJOR LIGHT REFINED PRODUCTS
(Thousand Barrels Per Day)

	1982			1983		
	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.
Gasoline						
Demand	5,549	987	6,536	5,615	1,007	6,622
Net Imports	136	41	177	217	20	237
Jet/Kerosene						
Demand	852	290	1,142	875	298	1,173
Net Imports	28	3	31	31	2	33
Distillate Fuel Oil						
Demand	2,353	308	2,661	2,371	319	2,690
Net Imports	43	(24)	19	142	(32)	110

Table 6 (continued)

	1986 Cyclical			1990 Cyclical			1990 Trend		
	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.
Gasoline									
Demand	5,447	1,019	6,466	5,046	1,002	6,048	5,377	1,068	6,445
Net Imports:									
High Imports*	364	61	425	356	61	417	351	96	447
Medium Imports**	215	45	260	215	45	260	210	80	290
Jet/Kerosene									
Demand	912	318	1,230	911	340	1,251	943	353	1,296
Net Imports:									
High Imports*	52	10	62	76	25	101	70	10	80
Medium Imports**	52	10	62	60	10	70	70	10	80
Distillate Fuel Oil									
Demand	2,544	378	2,922	2,640	422	3,062	2,771	446	3,217
Net Imports:									
High Imports*	478	84	562	687	127	814	644	116	760
Medium Imports**	182	32	214	230	80	310	270	100	370

*Imports based on no trade barriers in United States and trade barriers in Japan and Western Europe.

**"Free Trade" scenario assuming no trade barrier in Japan or Western Europe and Middle East at a rational rate.

- No imports of light refined products.

The amount of refinery capacity (expressed as crude distillation capacity) idled and assumed shut down due to increased imports is also shown in Table 7.

The idled refining capacity includes downstream and crude distillation capacity. It is expressed here as crude distillation capacity to provide a common reference point. For purposes of analysis, it has been assumed that the shutdowns occur in the same time period as excess capacity. In the past there has been a time lag between the occurrence of excess capacity and refinery shutdowns. The ability of the refining industry to carry excess capacity is directly related to its financial stability. Recently, low and often negative profit margins have resulted in increasing the debt structure of refiners. This has weakened their financial stability and will shorten the lag time between the occurrence of excess capacity and refinery shutdowns.

The shutting down of refining capacity will have two serious effects on the United States refining industry:

- **Loss of Jobs**—This will be an immediate effect. Job loss will not be confined to the specific refinery jobs but will have a multiplier effect in the local economy and in the nation as a whole.
- **Loss of Refining Capacity**—This will have an impact over a period of time. Most shutdown capacity will change from idle to unusable in less than 2 years.

The jobs lost due to projected refinery shutdowns are detailed in Tables 8 and 9. Shutdown of refinery capacity is calculated based on the difference between capacity utilization in the two import cases versus the no import case. In addition to showing the crude capacity shut down, the complexity of the refining capacity shut down is also indicated. Refinery complexity is an indication of the number and complexity of downstream units compared to the crude unit. From this table it can be seen that these shutdowns respresent loss of fairly sophisticated refining capacity.

Refinery job losses have been calculated based on the correlation between the refining crude capacity (including adjustment for complexity) and the number of refinery workers. These are direct job losses and have been calculated from two different data sources:

- **Pace**—Developed from Pace's data base which relates refinery jobs to crude distillation capacity times refinery complexity.
- **Other**—Developed from other data bases and also relates refinery jobs to crude distillation capacity times refinery complexity.

TABLE 7

UNITED STATES REFINING CAPACITY UTILIZATION AT HIGH IMPORT LEVEL, MEDIUM IMPORT LEVEL, AND NO IMPORT OF MAJOR LIGHT REFINED PRODUCTS

(Thousand Barrels Per Day)

	1986 Cyclical			1990 Cyclical			1990 Trend		
	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.
Crude Distillation Capacity(1) Utilized									
High Imports	9,872	2,099	11,971	9,840	2,134	11,974	10,533	2,262	12,795
Medium Imports	10,485	2,170	12,655	10,470	2,221	12,691	11,066	2,301	13,367
No Imports	10,753	2,260	13,013	11,021	2,360	13,381	11,352	2,459	13,811
Crude Capacity Not Utilized(2) Due to Imports									
No Imports-High Imports	881	161	1,042	1,182	226	1,408	819	197	1,016
No Imports-Medium Imports	268	90	358	551	139	690	286	158	444

1. Runs of crude to crude stills
2. Assumed to shutdown

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TABLE 8

UNITED STATES JOBS LOST DUE TO INCREASED IMPORTS OF MAJOR LIGHT REFINED PRODUCTS, HIGH IMPORTS VERSUS NO IMPORTS

	1986			1990 Cyclical			1990 Trend		
	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.
Refinery Capacity Not Utilized									
Crude Capacity Not Utilized (Assumed to Shutdown)-MBPD	881.1	161.1	1,042.2	1,182.0	226.4	1,408.4	818.9	196.7	1,015.6
Total Complexity of Refining Capacity Not Utilized	7.4	8.1	7.5	6.3	6.9	6.4	9.1	8.4	9.0
Jobs Lost Due to Idled Capacity									
Direct									
Pace	1,950	670	2,620	2,120	760	2,880	2,130	790	2,920
Other	3,090	750	3,840	3,440	880	4,320	3,460	930	4,390
Indirect*									
In SMSA:									
Pace	9,770	3,360	13,130	10,610	3,800	14,410	10,640	3,940	14,580
Other	15,430	3,750	19,180	17,220	4,420	21,640	17,280	4,630	21,910
All Areas:									
Pace	25,980	8,940	34,920	28,220	10,110	38,330	28,300	10,480	38,780
Other	41,040	9,970	51,010	45,810	11,740	57,550	45,970	12,300	58,270
Average for Other Industries**									
Pace	9,770	3,360	13,130	10,610	3,800	14,410	10,640	3,940	14,580
Other	15,430	3,750	19,180	17,220	4,420	21,640	17,280	4,630	21,910
Total***									
Pace	27,930	9,620	37,550	30,340	10,870	41,210	30,420	11,260	41,680
Other	44,130	10,720	54,850	49,250	12,630	61,880	49,430	13,230	62,660

*Studies by Texas Department of Water Resources and the John Gray Institute, which are specific to United States refining. Projects 13.3 jobs outside per job inside refinery and 5 of the 13.3 in the same SMSA as the refinery

**United States average job multiplied for manufacturing industry is about 5 jobs lost outside the manufacturing facility for every job lost inside the facility

***Based on refinery specific studies OP. CIT.

TABLE 9

UNITED STATES JOBS LOST DUE TO INCREASED IMPORTS OF MAJOR LIGHT REFINED PRODUCTS, MEDIUM IMPORTS VERSUS NO IMPORTS

	1986			1990 Cyclical			1990 Trend		
	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.
Refinery Capacity Not Utilized									
Crude Capacity Not Utilized (Assumed to Shut-down) MBPD	268.3	89.5	357.8	551.1	139.4	690.5	286.1	158.1	444.2
Total Complexity of Refining Capacity Not Utilized	7.0	9.0	7.1	4.7	6.6	5.1	13.0	8.4	11.4
Jobs Lost Due to Idled Capacity									
Direct									
Pace	850	490	1,340	1,060	530	1,590	1,350	680	2,030
Other	1,030	490	1,520	1,380	550	1,930	1,890	760	2,650
Indirect*									
In SMSA:									
Pace	4,260	2,450	6,710	5,320	2,660	7,980	6,730	3,400	10,130
Other	5,140	2,460	7,600	6,900	2,740	9;640	9,420	3,810	13,230
All Areas:									
Pace	11,340	6,510	17,850	14,160	7,070	21,230	17,910	9,050	26,960
Other	13,660	6,550	20,210	18,350	7,300	25,650	25,070	10,130	35,200
Average for Other Industries**									
Pace	4,260	2,450	6,710	5,320	2,660	7,980	6,730	3,400	10,130
Other	5,140	2,460	7,600	6,900	2,740	9,640	9,420	3,810	13,236
Total***									
Pace	12,190	7,000	19,190	15,220	7,600	22,820	19,260	9,730	28,990
Other	14,690	7,040	21,730	19,730	7,850	27,580	26,950	10,900	37,850

*Studies by Texas Department of Water Resources and the John Gray institute, which are specific to United States refining. Projects 13.3 jobs outside per job inside refinery and 5 of the 13.3 in the same SMSA as the refinery

**United States average job multiplied for manufacturing industry is about 5 jobs lost outside the manufacturing facility for every job lost inside the facility

***Based on refinery specific studies OP. CIT.

Refinery (direct) job losses result in a multiplier effect of job loss in the total economy. This multiplier is used to determine the indirect jobs lost and has been calculated from the following sources:

- **Texas Department of Water Resources (1983), The Texas Input-Output Model 1979**—This study was directed specifically at indirect job loss due to refinery job loss. The factor is 13.3 indirect jobs per direct (refinery) job.
- **John Gray Institute Study**—This October 1984 study was performed by the John Gray Institute of Lamar University, Beaumont, Texas. The study detailed job loss in the immediate area (SMSA) of the refinery job loss and is 5 indirect jobs per direct job loss.
- **Average for United States Manufacturing Industry**—This is not specific to the refining industry and is set at 5 indirect jobs per direct (refinery) job.

Note that these job losses are not cumulative over a period.

There are several important points to note from the tables on refinery capacity shut down and jobs lost due to these shutdowns. These are:

- **Shutdown refinery capacity becomes lost capacity.** Refineries which are shut down even for short periods (6 months to 1 year) with the intention of restarting, would require investment of $200 to $500 per barrel (not including inventory costs) and take 3 to 6 months to restart. When refineries are shut down due to a cash flow squeeze, it is likely that only minimal mothballing investments are made. In such a case, startup would be very difficult. In any case, even with maximum expenditure for mothballing equipment, it is unlikely that a refinery shut down for 1.5 years or more could be restarted.
- **The shutdown capacity represents an inability to produce refined products in the future.** In the event of trade disruptions the United States could be as much as 1.4 million barrels per day short of light refined products, regardless of the volume of crude oil in the Strategic Petroleum Reserve. The crude stored in the Strategic Petroleum Reserve will not solve supply problems under a scenario in which the United States has become dependent upon imports to supply 10 to 13 percent of the supply of major light refined products. Thus increased imports of refined products tend to negate the value of the $30 billion investment in the Strategic Petroleum Reserve.
- **Capacity which is shut down in the short term will be required in the long term as demand increases in the future.** Some of the capacity which is shut down now will be required to meet future demands.

- **Job losses in certain regions could be significant.** Loss of jobs in standard metropolitan statistical areas (SMSA) in which refineries are located could be significant. Loss of jobs (due to imports of refined products) in the SMSA's in which refineries are located could be as high as 26,000 jobs. Since United States refineries tend to be concentrated in key areas of Pennsylvania, Louisiana, Texas, California, and Washington, these potential job losses could be expected to affect those regions most.

In addition to refinery capacity and job losses associated with shutdowns, there is also the effect of reduced profits when excess capacity occurs. High refined product imports serve to lower United States refinery capacity utilization, resulting in significantly lower profits. In the absence of refinery shutdowns, refiners' gross margins—defined as refined product revenue less cost of feedstock—drop $0.92 per input barrel when high product imports are compared to a no import scenario. This translates to approximately $4 billion in reduced profits for the United States refining industry.

BACKGROUND AND BASIS

World demand for refined products experienced a healthy growth rate between 1960 and 1980 as shown in the following table:

World Demand for Refined Products*

	Thousand Barrels Per Day			Average Annual Growth Rate, %			
	WOCA **	Communist Nations	Total World	Period	WOCA **	Communist Nations	Total World
1960	18,472	2,891	21,363				
1965	26,680	4,513	31,192	1960-1965	7.63	9.32	7.86
1970	39,200	6,503	45,703	1965-1970	8.00	7.58	7.94
1975	44,141	8,854	52,996	1970-1975	2.40	6.37	3.01
1980	50,640	12,884	63,524	1975-1980	2.78	7.79	3.69
1981	47,208	13,170	60,378	1980-1981	(6.78)	2.22	(4.95)
1982	44,099	13,185	57,284	1981-1982	(6.59)	0.11	(5.12)
1983	45,181	13,245	58,426	1982-1983	2.45	0.46	1.99
1984	46,200	na	na	1983-1984	2.20	na	na

*Communist nations excludes Cuba
**World Outside Communist Area

While the growth in the 1970s was not as rapid as occurred in the 1960s, it still exhibited substantial growth, especially in the 1975 to 1980 period. The increase in demand from 1975 to 1980 was in part due to decreasing real prices for crude oil as inflation outstripped oil price increases over most of the period. The disruption of crude supplies resulting from the Iranian revolution brought a rapid increase in the real price of crude and refined products in 1979. The combination of price increase and relatively high growth in demand resulted in high profits for refiners worldwide. Major crude exporters, seeing the increase in refining profits as an additional business opportunity, decided to invest in export refineries.

The expansion of export refinery capacity that was planned in the late 1970s and early 1980s represents a bullish view for world refined products demand in the 1980s. The common expectation was that demand would grow at between 2 and 3 percent per year throughout the 1980s. In contrast to the growth in demand in the last decade, demand for refined products in this decade has declined between 1980 and 1984 at the rate of 2.3 percent over the period. This decline was due to the following:

- **Worldwide recession in the 1981 to 1983 period**—since energy demand is primarily a function of economic activity, economic decline results in lower energy use.

- **Consumer response to rapidly increasing energy prices.** The large increase in petroleum prices resulted in substantial shifts in consumption of energy by method such as: increasing efficiency of the automotive fleet, decreasing fuel consumption in space heating via shifts in thermostat settings, and higher capital investment in heat recovery equipment.

As has been implied above, the major factor in determining energy consumption is economic activity. The amount of energy associated with any level of activity is related to the price of energy. Pace utilizes a macroeconomic model of the United States economy developed by a Pace subsidiary company, Management Technologies, Inc. (MTI). The model uses the concept of "system dynamics," and is based on mathematical procedures developed for modelling feedback control systems. The economic forecast based on the MTI model is shown in Figure 1 for the United States. Also included is a Trend forecast which is based on a consensus of normal trend forecasters' methods. The basic Pace economic forecast, referred to throughout this report as the Cyclical forecast, shows a recession occurring in 1987 with a slow recovery through 1990, followed by rapid economic growth in the 1991 to 1995 period. In contrast, the Trend case shows a fairly steady growth rate throughout the period.

The methodology used by Pace to forecast world economic activity is based on the premise that United States economic activity has a direct influence on global economic activity. The major linkage occurs through interest rates. United States short-term interest rates are assumed to determine interest rates worldwide. These short-term rates are the critical factors in determining economic activity.

The forecast of world energy demand is based on the economic forecasts for the United States as shown in Figure 2. The forecast, based on eleven world regions, has been aggregated as shown in Figure 3. The forecast indicates the following:

- Since energy demand is largely a function of economic activity, demand for energy in the Cyclical case shows very low growth in the 1986 to 1990 period, with a sharp increase between 1990 and 1995.
- While petroleum will remain the largest single source of energy, its percent of total use will decline in the future. This is a continuation of the trend which saw petroleum's share of the total markets drop almost 6 percent between 1978 and 1982.
- Coal and primary electricity (nuclear, hydroelectric, etc.) will exhibit significant growth over the forecast period. This is due in part to increasing demand for electrical power by the consuming sectors, and partly due to displacement of petroleum by coal and nuclear as boiler fuel in electrical utilities.

The forecast refined products demand for WOCA, derived from the total energy demand, is shown in Figure 3. The forecast indicates the following:

- The 1980s are years of retrenchment for refined products demand. In the Cyclical case, refined products will be below 1979 demands throughout the decade. Even in the Trend case, demand will not exceed the 1979 high until 1989.
- Distillate exhibits a substantial increase in demand throughout the forecast period and is forecasted to be the largest single demand by 1995.
- Gasoline demand will grow only at a moderate rate during the forecast.

MIDDLE EAST EXPORT REFINERIES

The rapid increase in crude oil price in 1979 brought a bonanza of cash flow to both crude producers and refiners. Many of the major crude producing countries had excess capital and were looking for investment opportunities. As a result, many of the crude exporting countries in the Middle East invested in new refining capacity. These investments appeared to be prudent from two points of view:

- **Refining was profitable.** The high demand for refined products during the 1975 to 1980 period resulted in profitable refining margins. Since most forecasts called for increasing demand in the future, it was assumed that refiners would be profitable in the future.
- **Refining is forward integration in the oil industry.** Crude exporters have often viewed the major international oil companies as role models. Entering the refinery business would emulate these companies and was seen as a method for crude producers to increase economic and strategic power in the industry.

Middle East existing and planned refinery expansions are shown in Table 10. These expansions are sub-divided into capacity which will be onstream by mid-1986 and after mid-1986. A detailed list of these additions by refinery location is shown in Table 11. These show that the expansions are in the form of complex refinery additions and not merely hydroskimming refineries. The expansion in heavy oil conversion capacity (processing atmospheric residual to produce lighter products) is 302,000 barrels per day excluding visbreaking and atmospheric residual desulfurization, and 570,000 barrels per day when these processes are included. This represents 19 and 35 percent, respectively, of total atmospheric crude distillation capacity additions. Such expansions would indicate a refining configuration designed to produce light refined products such as gasoline and middle distillates (distillate fuel oil, kerosene, and jet fuel).

TABLE 10

MIDDLE EAST REFINING CAPACITY
(Thousand Barrels Per Stream Day)

	Capacity as of 1/1/84	Capacity as of 1/1/85	Additional Capacity 1985-1986	Capacity for 1986	Additional Capacity Post 1986	Capacity for 1990	Average Annual Growth Rate 1985-1990
Crude, Atmospheric Distillate	3,571	3,740	786	4,526	845	5,371	7.5
Crude, Vacuum Distillate	746	797	437	1,234	120	1,354	11.2
Catalytic Crackers	74	80	96	176	-	176	17.0
Catalytic Reforming	284	327	58	385	72	457	6.9
Hydrocrackers	232	273	146	419	-	419	8.9
Delayed Coker	19	19	60	79	-	79	36.0
Visbreaker	191	207	97	304	39	343	10.6
Atmospheric Residuum Desulfurization	34	108	132	239	-	239	17.2
Atmospheric Tower Bottom Conversion Units:							
Catalytic Cracking, Hydrocracking Delayed Coking	325	372	302	674	0	674	12.6
Catalytic Cracking, Hydrocracking, Delayed Coking, Visbreaking, Atmospheric Bottoms	550	687	531	1,218	39	1,257	12.8

TABLE II

MIDDLE EAST REFINERY EXPANSIONS
(Thousand Barrels Per Stream Day)

Country	Company	Location	Expected Completion Date	Crude, Atmos	Crude Vacuum	Catalytic Cracking	Catalytic Reforming	VGO Hydro-cracking	Delayed Coking	Vis-breaking	ARDS
Abu Dhabi	Adnoc	Ruwais	1985	150	45			38			
Israel	Oil Refining	Haifa	1985	60	30					27	
Kuwait	KOC	Mina Abdulla	1986	156	125			38	60		66
Kuwait	KOC	Mina Al Ahamad	1986		60	30		38			66
Qatar	QGPC	Um Siad	1985	50			10				
Oman*			1988	200							
Saudi Arabia	Petro/Shell	Al Jubail	1985	270	70		16			30	
Saudi Arabia	Petro/Mobil	Yanbu	1985	250	107	66	32	40		40	
Saudi Arabia	Petro/Petrola	Rabigh	1987	325	120		50				
UAE	ASOC	Ajman	1988	170			22			39	
Total				1,631	557	96	130	146	60	136	132

*Site not specified

Middle East demand for refined products—actual and forecasted—are shown in Table 12. As can be seen by comparing the growth in demand over the 1985 to 1990 period with the expansion in refinery capacity (Table 10), demand growth is outstripped by refinery capacity expansion. This is particularly true for bottoms conversion capacity, with a growth rate of almost 3 times that for total major light products (gasoline, jet/kerosene, distillate) in the Trend case between 1985 and 1990. In the Cyclical case, the ratio between bottoms conversion growth and light products demand growth is over 11:1. Obviously the expansion in Middle East refining capacity is aimed at increasing exports and not just at satisfying domestic demand increases.

The above comparisons between Middle East product demand and refinery capacity are based on the 1985 to 1990 period. The growth in refinery capacity in the Middle East is skewed toward the 1985/1986 period; thus the capability of supplying products to export also would tend to be skewed toward the near term.

Based on assumptions made by the Independent Refiners Coalition, it is assumed that the conversion units of these Middle East refiners will run at maximum operating throughput. When the Middle East refiners are run at high capacity utilization, a major portion of these refined products will be sold in the export market as shown in Table 13. The percentage of total products that would go to export under the scenario is as follows:

Middle East Export of Major Light Refined Products*
(Percent of Total Production)

	1986	1990	
	Cyclical	Cyclical	Trend
Gasoline	64	66	63
Kerosene/Jet Kerosene	26	38	30
Distillate Fuel Oil	64	70	67

*Assumes high utilization of conversion capacity

The expansion in production of major light refined products in the Middle East would take place at a time when WOCA demand for these products is forecasted to be as follows:

TABLE 12

MIDDLE EAST REFINED PRODUCTS DEMAND
(Thousand Barrels Per Day)

	Gasoline	Jet/ Kerosene	Distillate	Residual	All Others	Products
Actual						
1982	274	227	303	591	209	1,604
1983	296	238	314	573	210	1,631
Short Term						
1985	344	245	370	671	244	1,885
Cyclical Case						
1986	345	233	375	668	255	1,876
1987	342	223	370	654	242	1,831
1988	350	221	376	656	247	1,850
1989	371	226	396	681	258	1,932
1990	383	226	405	688	265	1,967
Average Annual Growth Rate, % (1985-1990)	2.1*	(1.6)*	1.8*	0.5	1.7	0.9
Trend Case						
1986	355	240	387	690	255	1,927
1987	375	244	409	722	266	2,016
1988	399	251	435	759	281	2,125
1989	422	257	459	792	295	2,225
1990	444	261	481	821	307	2,314
Average Annual Growth Rate, % (1985-1990)	5.2*	1.3*	5.4*	4.1	4.7	4.2

* Average annual growth rate, % (1985-1990) for gasoline, jet/kerosene, and distillate combined is as follows: Cyclical = 1.1%, Trend = 4.3%

TABLE 13

MIDDLE EAST DEMAND, PRODUCTION, AND EXPORT OF MAJOR LIGHT REFINED PRODUCTS*

(Thousand Barrels Per Day)

	1986	1990	
	Cyclical	Cyclical	Trend
Gasoline			
Production	962	1,135	1,215
Demand	345	383	444
Net Exports	617	752	771
Kerosene/Jet Kerosene			
Production	317	362	371
Demand	233	226	261
Net Exports	84	136	110
Distillate Fuel Oil			
Production	1,047	1,344	1,439
Demand	375	405	481
Net Exports	672	939	958

*Assumes maximum utilization of heavy oil conversion units

WOCA Demand for Major Light Refined Products
(Thousand Barrels Per Day)

	1985	1986	1990		Average 1985-1990 (%)	
		Cyclical	Cyclical	Trend	Cyclical	Trend
Gasoline	13,316	13,212	13,167	14,222	(0.2)	1.3
Jet/Kerosene	3,473	3,370	3,289	3,595	(1.2)	1.3
Distillate	11,714	11,784	12,284	13,616	1.0	2.9
Total	28,503	28,366	28,740	31,433	0.2	2.0

Based on these forecasts, the following may be concluded:

- Demand growth for major light refined products in WOCA for the Cyclical case will be almost nil between 1985 and 1990. During part of this period, with a projected economic recession, demand growth will be negative.
- Demand for major light refined products in the Trend case is forecasted to grow at only 2.0 percent per year between 1985 and 1990.
- The forecasted large increase in refined light products exports from Middle East refineries will face a market which is demand limited. This will result in downward pressure on revenues from these products.
- Middle East exporters of refined products are also crude exporters. The downward pressure on product revenue caused by an excess supply will also cause downward pressure on crude revenues. This will result from crude purchasers putting pressure on crude suppliers in a market which is demand limited both for crude oil and refined products.

In response to the prospect of reduced crude and product revenues caused by increasing exports of refined products, free market economics should dictate that new export refinery capacity should either be delayed or cancelled. Export capacity already completed would run at minimum capacity.

MARKETS FOR EXPORTING REFINED PRODUCTS

Exporters of refined products will focus their marketing effort on the major consuming regions. The combined demand of the United States, Western Europe, and Japan has been and will continue to be the principal market for major light refined products (Table 14). The market shares of these regions indicate the following:

TABLE 14

DEMAND FOR MAJOR LIGHT REFINED PRODUCTS*
(Percent of Total WOCA)

	1982	1983	1986	1990	
			Cyclical	Cyclical	Trend
United States					
Gasoline	52	51	49	46	45
Middle Distillate**	27	27	27	28	26
Japan					
Gasoline	5	5	5	5	5
Middle Distillate**	8	8	8	8	8
Western Europe					
Gasoline	19	19	19	20	19
Middle Distillate**	31	31	30	29	29
Total United States, Japan, Western Europe					
Gasoline	76	76	74	71	69
Middle Distillate*	66	66	65	65	63

*Sources: DOE, OECD, IEA, UN, PACE
**Jet fuel, kerosene, and distillate fuel oil

- The United States represents over 50 percent of total WOCA gasoline consumption. While its percent of WOCA demand is forecasted to decrease somewhat in the future, it will still represent the single largest market for gasoline. Based on this alone, the United States could be expected to be a key target for gasoline exporters.
- While demand for middle distillates in Western Europe represents the single largest market, this market represents a collection of separate political entities. The United States represents the single largest national demand for distillate products.
- These major consuming regions represent between 71 and 60 percent of the total markets for major light refined products between 1982 and 1990 (Cyclical), respectively. The combination of a large organized trading in refined products in these regions and the relatively low demand, less organized markets, and political trade barriers in other regions will cause exporters to concentrate their efforts in these regions.

While it would be reasonable to assume that export refiners would attempt to sell their products in all of the major markets, the Independent Refiners Coalition has assumed that two (Japan and Western Euorpe) of the three will present barriers to free trade. Under this assumption, the United States would not only have to absorb a "reasonable" share of the exports but also any excess products in the export market that would impact limits set by Japan and Western Europe.

Historically, Japan has completely restricted the importation of gasoline. Recent attempts by a Japanese gasoline marketer to import gasoline met with sharp resistance, and the marketer withdrew. It is a basic assumption of the Independent Refiners Coalition that Japan will continue to completely restrict importation of gasoline in the future.

The historic and forecast demand and imports of major light refined products for Japan are shown in Table 15. This shows two levels of gasoline imports. The first, which is the base case, assumes that Japan will continue to prohibit importation of gasoline. The second is based on the assumption that Japan will allow gasoline imports to accommodate increased exports from new Middle East export refiners. Japan does not have trade barriers to other refined products. Thus this forecast assumes that jet fuel, kerosene, and distillate fuel imports will increase due to more exports from Middle East refiners. The level of imports of these products is forecasted to increase by 6 percent of total demand between 1983 and 1990 (Cyclical). Under the scenario of continued restrictions of gasoline imports to Japan, the gasoline which would be imported under free market conditions would have to be absorbed by other regions/countries. If Western Europe also implemented trade restrictions for refined products, the only other major outlet available would be the United States. Thus gasoline imports barred from Japan would result in increasing gasoline imports into the United States.

TABLE 15

JAPAN DEMAND, PRODUCTION AND IMPORTS OF MAJOR LIGHT REFINED PRODUCTS

	1982	1983	1986 Cyclical	1990 Cyclical	1990 Trend
	(Thousand Barrels Per Day)				
Gasoline					
Demand	609	616	656	686	757
Net Imports*	0	0	0	0	0
Middle Distillates (Kerosene/Jet Diesel, Gasoil)					
Demand	1,158	1,189	1,187	1,172	1,304
Net Imports	49	51	101	124	186
	Percent of Demand				
Net Imports					
Gasoline*	0	0	0	0	0
Middle Distillate	4.2	4.3	8.5	10.5	14.3

*In the absence of future import restrictions, Japan could be expected to import the following volumes of gasoline from the Middle East: 32 MBPD in 1986 and 1990 Cyclical and 47 MBPD in 1990 Trend. This would represent 4.9, 4.7, and 6.2 percent of total demand, respectively.

The expansion of export refiners in the Middle East has concerned the European Economic Community (EEC). European refiners have been operating with excess capacity for almost 10 years. They have gradually come to grips with the problems by shutting down capacity. In the absence of increased imports, European refiners could look forward to a slowly increasing demand for refined products in the future (Table 16). However, Western Europe is one of the target markets for new export refineries. Thus the EEC has developed preliminary documents calling for restricting imports. These restrictions center around the concept of restricting net imports from outside continental Europe to no more than 7 percent of total demand. The Independent Refiners Coalition has assumed that this barrier will be enforced and will apply to all of Western Europe. Based on this barrier, Western European demand and net imports (outside continental Europe) have been developed (Table 16). This table indicates that net exports from outside continental Europe of major light products will be less than 7 percent of demand even in the future. This is due to the significant net importation of heavy fuel oil which has and is forecasted to continue to exceed 7 percent of total demand. A case was also developed without import restrictions and is included in Table 16.

The historical and forecasted demand and net imports indicate the following:

- Western Europe has been a net exporter of gasoline in trade outside continental Europe.
- The forecast shows Western Europe will be a net importer of gasoline in trade from outside continental Europe even if trade restrictions are implemented.
- The increase in gasoline imports betweeen 1983 and 1990 Cyclical without restrictions is a net increase of 247,000 barrels per day, or 9.3 percent of 1990 Cyclical demand.
- The following table shows that if imports are not restricted demand for major light products in 1990 Cyclical which would be met from inside continental Europe would only be 106,000 barrels per day above 1983.

Western Europe Supply of Major
Refined Products from Continental Europe
(Thousand Barrels Per Day)

	1982	1983	1986	1990	
			Cyclical	Cyclical	Trend
With Import Restrictions	6,852	6,869	7,008	7,034	7,554
No Import Restrictions	6,852	6,869	6,989	6,975	7,463

TABLE 16

WESTERN EUROPE (OECD) DEMAND, AND IMPORTS (FROM OUTSIDE CONTINENTAL EUROPE) OF MAJOR LIGHT REFINED PRODUCTS

			1986	1990	
	1982	1983	Cyclical	Cyclical	Trend
(Thousand Barrels Per Day)					
Motor Gasoline					
Demand	2,406	2,427	2,564	2,649	2,763
Net Imports if Restricted	(80)	(107)	57	99	87
Net Imports if Unrestricted	(80)	(107)	70	140	132
Jet/Kerosene					
Demand	491	463	477	478	508
Net Imports if Restricted	(31)	(44)	(19)	(16)	(15)
Net Imports if Unrestricted	(31)	(44)	(19)	(16)	(15)
Distillate Fuel Oil					
Demand	3,839	3,857	4,035	4,035	4,442
Net Imports if Restricted	(15)	29	30	45	87
Net Imports if Unrestricted	(15)	29	36	63	133
Total Gasoline, Jet/Kerosene, Distillate Fuel Oil					
Demand	6,736	6,747	7,076	7,162	7,713
Net Imports if Restricted	(126)	(122)	68	128	159
Net Imports if Unrestricted	(126)	(122)	87	187	250
Percent of Demand					
NET IMPORTS					
Motor Gasolne					
Restricted	(3.3)	(4.4)	2.2	3.7	3.2
Unrestricted	(3.3)	(4.4)	2.7	5.3	4.8
Jet/Kerosene					
Restricted	(6.3)	(9.5)	4.0	(3.3)	(3.0)
Unrestricted	(6.3)	(9.5)	4.0	(3.3)	(3.0)
Distillate Fuel Oil					
Restricted	(0.4)	0.8	0.7	1.1	2.0
Unrestricted	(0.4)	0.8	0.9	1.6	3.0

> This is a growth rate of only 0.2 percent per year. Even in the absence of restrictions the growth rate in supply from continental Europe would only be a 0.3 percent per year. This compares with a growth in demand for these products of 0.9 percent per year for the period. Thus imports are forecasted to take the major share of any growth when the demand has a low growth rate.

The key assumption for this analysis is that imports barred from Japan or Western Europe will be totally absorbed by United States markets, in the absence of United States trade restrictions. Since the United States is the largest single market for light refined products in WOCA (Table 18) and developing countries tend to have trade barriers, this is a reasonable assumption.

EFFECTS OF IMPORTS ON UNITED STATES REFINING INDUSTRY

The United States demand and net imports of major refined products are shown in Table 17. The market share captured by net imports are shown in Table 18. The level of imports have been developed from the following cases:

- **High Imports**—Based on a world trade balance in which Japan and Western Europe establish trade barriers and United States has no trade barriers. United States is assumed to absorb all exports which are in excess of the "free trade" case for Western Europe and Japan. Middle East export refineries are running at maximum conversion capacity.
- **Medium Imports**—Assumes no future trade barriers in Western Europe and Japan. Middle East refineries run at about 70 percent utilization of capacity. This is a "free trade" case.

These demands and imports indicate the following:

- The demand for gasoline will drop between 1983 and 1990 Cyclical by almost 600,000 barrels per day. Even in the 1990 Trend case demand is almost 200,000 barrels per day below 1983 demand. Yet during this period imports will increase in market share by 3.3 percent and 0.7 percent of the total market for the high and medium import cases, respectively.
- Distillate fuel oil demand will expand between 1983 and 1990 by 372,000 and 527,000 barrels per day for the Cyclical and Trend cases, respectively. Under the high import scenario, between 1983 and 1990 imports will exceed demand growth by 332,000 barrels per day for the Cyclical and 123,000 barrels per day for the Trend case.
- Under the high import case, imports would supply about 25 percent of total demand by 1990. Since consumption and imports of distillate fuel are higher in the Northeast United States it could be expected that a very large percentage of United States Northeast distillate demand would be met by imported products.

Importing refined products results in lower utilization of United States refining capacity. The effect of imports has been analyzed using linear programming to model the refineries. As with demand and imports, refining capacity has been segregated into PADDs 1-4 and PADD 5. Refining capacity utilized and refining capacity idled due to imports are shown for the cases with high imports, medium imports, and no imports of light products in Table 19. The idled capacity is calculated using the no import case as a base. Idled capacity is assumed to be shutdown capacity.

TABLE 17

UNITED STATES DEMAND AND IMPORTS OF MAJOR LIGHT REFINED PRODUCTS
(Thousand Barrels Per Day)

	1982			1983		
	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.
Gasoline						
Demand	5,549	987	6,536	5,615	1,007	6,622
Net Imports	136	41	177	217	20	237
Jet/Kerosene						
Demand	852	290	1,142	875	298	1,173
Net Imports	28	3	31	31	2	33
Distillate Fuel Oil						
Demand	2,353	308	2,661	2,371	319	2,690
Net Imports	43	(24)	19	142	(32)	110

Table 17 (continued)

	1986 Cyclical			1990 Cyclical			1990 Trend		
	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.
Gasoline									
Demand	5,447	1,019	6,466	5,046	1,002	6,048	5,377	1,068	6,445
Net Imports:									
High Imports*	364	61	425	356	61	417	351	96	447
Medium Imports**	215	45	260	215	45	260	210	80	290
Jet/Kerosene									
Demand	912	318	1,230	911	340	1,251	943	353	1,296
Net Imports:									
High Imports*	52	10	62	76	25	101	70	10	80
Medium Imports**	52	10	62	60	10	70	70	10	80
Distillate Fuel Oil									
Demand	2,544	378	2,922	2,640	422	3,062	2,771	446	3,217
Net Imports:									
High Imports*	478	84	562	687	127	814	644	116	760
Medium Imports**	182	32	214	230	80	310	270	100	370

*Imports based on no trade barriers in United States and trade barriers in Japan and Western Europe.

**"Free Trade" scenario assuming no trade barrier in Japan or Western Europe and Middle East at a rational rate.

TABLE 18

UNITED STATES IMPORTS OF MAJOR LIGHT REFINED PRODUCTS
(Percent of Total Demand)

	1982	1983	1986 Cyclical	1990 Cyclical	1990 Trend
Gasoline					
High Imports	2.7	3.6	6.5	6.9	6.9
Medium Imports	2.7	3.6	4.0	4.3	4.5
Jet/Kerosene					
High Imports	2.7	2.8	5.0	5.6	6.2
Medium Imports	2.7	2.8	5.0	5.6	6.2
Distillate Fuel					
High Imports	0.7	4.1	19.2	26.6	23.6
Medium Imports	0.7	4.1	7.3	10.1	11.5

TABLE 19

UNITED STATES REFINING CAPACITY UTILIZATION AT HIGH IMPORT LEVEL, MEDIUM IMPORT LEVEL, AND NO IMPORT OF MAJOR LIGHT REFINED PRODUCTS

(Thousand Barrels Per Day)

	1986 Cyclical			1990 Cyclical			1990 Trend		
	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.
Crude Distillation Capacity[1] Utilized									
High Imports	9,872	2,099	11,971	9,840	2,134	11,974	10,533	2,262	12,795
Medium Imports	10,485	2,170	12,655	10,470	2,221	12,691	11,066	2,301	13,367
No Imports	10,753	2,260	13,013	11,021	2,360	13,381	11,352	2,459	13,811
Crude Capacity Not Utilized[2] Due to Imports									
No Imports-High Imports	881	161	1,042	1,182	226	1,408	819	197	1,016
No Imports-Medium Imports	268	90	358	551	139	690	286	158	444

1. Runs of crude to crude stills
2. Assumed to shutdown

The idled capacity represents both crude distillation and downstream capacity. For analysis purposes it has been expressed as crude capacity in order to provide a common reference point. The analysis also assumes that shutdown occurs simultaneously with excess capacity. Historically there has been a time lag between the onset of excess capacity and shutdown. The ability of an industry to operate with excess capacity over a prolonged period is related to its financial stability. Recently low and often negative profit margins have increased the debt structure of many refiners. This has weakened their financial stability and will decrease their ability to operate with excess capacity. Thus the lag time between idle and shutdown refinery capacity should be much shorter in the future.

Shutting down refining capacity will have two serious effects on the United States refining industry:

- **Loss of Jobs**—This will be an immediate effect. Job loss will not be confined to the specific refinery jobs but will have a multiplier effect in the local economy and in the nation as a whole.
- **Loss of Refining Capacity**—This will have an impact over a period of time. Most shutdown capacity will change from idle to unusable in less than 2 years.

The jobs lost due to projected refinery shutdowns are detailed in Tables 20 and 21. Shutdown of refinery capacity is calculated based on the difference between capacity utilization in the two import cases versus the no import case. In addition to showing the crude capacity shut down, the complexity of the refining capacity shut down is also indicated. Refinery complexity is an indication of the number and complexity of downstream units compared to the crude unit. From this table it can be seen that these shutdowns respresent loss of fairly sophisticated refining capacity.

Refinery job losses have been calculated based on the correlation between the refining crude capacity (including adjustment for complexity) and the number of refinery workers. These are direct job losses and have been calculated from two different data sources:

- **Pace**—Developed from Pace's data base which relates refinery jobs to crude distillation capacity times refinery complexity.
- **Other**—Developed from other data bases and also relates refinery jobs to crude distillation capacity times refinery complexity.

Refinery (direct) job losses result in a multiplier effect of job loss in the total economy. This multiplier is used to determine the indirect jobs lost and has been calculated from the following sources:

TABLE 20

UNITED STATES JOBS LOST DUE TO INCREASED IMPORTS OF MAJOR LIGHT REFINED PRODUCTS, HIGH IMPORTS VERSUS NO IMPORTS

	1986			1990 Cyclical			1990 Trend		
	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.
Refinery Capacity Not Utilized									
Crude Capacity Not Utilized (Assumed to Shutdown)-MBPD	881.1	161.1	1,042.2	1,182.0	226.4	1,408.4	818.9	196.7	1,015.6
Total Complexity of Refining Capacity Not Utilized	7.4	8.1	7.5	6.3	6.9	6.4	9.1	8.4	9.0
Jobs Lost Due to Idled Capacity									
Direct									
Pace	1,950	670	2,620	2,120	760	2,880	2,130	790	2,920
Other	3,090	750	3,840	3,440	880	4,320	3,460	930	4,390
Indirect*									
In SMSA:									
Pace	9,770	3,360	13,130	10,610	3,800	14,410	10,640	3,940	14,580
Other	15,430	3,750	19,180	17,220	4,420	21,640	17,280	4,630	21,910
All Areas:									
Pace	25,980	8,940	34,920	28,220	10,110	38,330	28,300	10,480	38,780
Other	41,040	9,970	51,010	45,810	11,740	57,550	45,970	12,300	58,270
Average for Other Industries**									
Pace	9,770	3,360	13,130	10,610	3,800	14,410	10,640	3,940	14,580
Other	15,430	3,750	19,180	17,220	4,420	21,640	17,280	4,630	21,910
Total***									
Pace	27,930	9,620	37,550	30,340	10,870	41,210	30,420	11,260	41,680
Other	44,130	10,720	54,850	49,250	12,630	61,880	49,430	13,230	62,660

*Studies by Texas Department of Water Resources and the John Gray Institute, which are specific to United States refining. Projects 13.3 jobs outside per job inside refinery and 5 of the 13.3 in the same SMSA as the refinery

**United States average job multiplied for manufacturing industry is about 5 jobs lost outside the manufacturing facility for every job lost inside the facility

***Based on refinery specific studies OP. CIT.

TABLE 21

UNITED STATES JOBS LOST DUE TO INCREASED IMPORTS OF MAJOR LIGHT REFINED PRODUCTS, MEDIUM IMPORTS VERSUS NO IMPORTS

	1986			1990 Cyclical			1990 Trend		
	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.	PADD 1-4	PADD 5	Total U.S.
Refinery Capacity Not Utilized									
Crude Capacity Not Utilized (Assumed to Shutdown)-MBPD	268.3	89.5	357.8	551.1	139.4	690.5	286.1	158.1	444.2
Total Complexity of Refining Capacity Not Utilized	7.0	9.0	7.1	4.7	6.6	5.1	13.0	8.4	11.4
Jobs Lost Due to Idled Capacity									
Direct									
Pace	850	490	1,340	1,060	530	1,590	1,350	680	2,030
Other	1,030	490	1,520	1,380	550	1,930	1,890	760	2,650
Indirect*									
In SMSA:									
Pace	4,260	2,450	6,710	5,320	2,660	7,980	6,730	3,400	10,130
Other	5,140	2,460	7,600	6,900	2,740	9,640	9,420	3,810	13,230
All Areas:									
Pace	11,340	6,510	17,850	14,160	7,070	21,230	17,910	9,050	26,960
Other	13,660	6,550	20,210	18,350	7,300	25,650	25,070	10,130	35,200
Average for Other Industries**									
Pace	4,260	2,450	6,710	5,320	2,660	7,980	6,730	3,400	10,130
Other	5,140	2,460	7,600	6,900	2,740	9,640	9,420	3,810	13,230
Total***									
Pace	12,190	7,000	19,190	15,220	7,600	22,820	19,260	9,730	28,990
Other	14,690	7,040	21,730	19,730	7,850	27,580	26,950	10,900	37,850

*Studies by Texas Department of Water Resources and the John Gray institute, which are specific to United States refining. Projects 13.3 jobs outside per job inside refinery and 5 of the 13.3 in the same SMSA as the refinery

**United States average job multiplied for manufacturing industry is about 5 jobs lost outside the manufacturing facility for every job lost inside the facility

***Based on refinery specific studies OP. CIT.

- **Texas Department of Water Resources (1983), The Texas Input-Output Model 1979**—This study was directed specifically at indirect job loss due to refinery job loss. The factor is 13.3 indirect jobs per direct (refinery) job.
- **John Gray Institute Study**—This October 1984 study was performed by the John Gray Institute of Lamar University, Beaumont, Texas. The study detailed job loss in the immediate area (SMSA) of the refinery job loss and is 5 indirect jobs per direct job loss.
- **Average for United States Manufacturing Industry**—This is not specific to the refining industry and is set at 5 indirect jobs per direct (refinery) job.

Note that these job losses are not cumulative over a period.

There are several important points to note from the tables on refinery capacity shut down and jobs lost due to these shutdowns. These are:

- **Shutdown refinery capacity becomes lost capacity.** Refineries which are shut down even for short periods (6 months to 1 year) with the intention of restarting, would require investment of $200 to $500 per barrel (not including inventory costs) and take 3 to 6 months to restart. When refineries are shut down due to a cash flow squeeze, it is likely that only minimal mothballing investments are made. In such a case, startup would be very difficult. In any case, even with maximum expenditure for mothballing equipment, it is unlikely that a refinery shut down for 1.5 years or more could be restarted.
- **The shutdown capacity represents an inability to produce refined products in the future.** In the event of trade disruptions the United States could be as much as 1.4 million barrels per day short of light refined products, regardless of the volume of crude oil in the Strategic Petroleum Reserve. The crude stored in the Strategic Petroleum Reserve will not solve supply problems under a scenario in which the United States has become dependent upon imports to supply 10 to 13 percent of the supply of major light refined products. Thus, increased imports of refined products tend to negate the value of the $30 billion investment in the Strategic Petroleum Reserve.
- **Capacity which is shut down in the short term will be required in the long term as demand increases in the future.** Some of the capacity which is shut down now will be required to meet future demands.
- **Job losses in certain regions could be significant.** Loss of jobs in standard metropolitan statistical areas (SMSA) in which refiner-

> ies are located could be significant. Loss of jobs (due to imports of refined products) in the SMSA's in which refineries are located could be as high as 26,000 jobs. Since United States refineries tend to be concentrated in key areas of Pennsylvania, Louisiana, Texas, California, and Washington, these potential job losses could be expected to affect those regions most.

In addition to refinery capacity and job losses associated with shutdowns, there is also the effect of reduced profits when excess capacity occurs. Increasing imports of refined products will result in lower refinery capacity utilization. There is a direct correlation between capacity utilization and refinery gross margin (refined product revenue less cost of feedstock). The Pace correlation for refinery margins relate the following major variables to refinery profitability: cost of crude, capacity utilization, inventory of products, and refinery complexity. In the absence of refinery shutdown and assuming that all other factors are constant, refiners' gross margins drop $0.92 per input barrel when high product imports are compared to a no import scenario. This translates to approximately $4 billion in reduced profits for the United States refining industry.

From the perspective of the individual refiner, the amount of income forgone is staggering. For an average size United States refinery—one with an 80,000 barrel per day crude capacity—a $0.92 per barrel reduction in gross margin translates to a reduction in income of $26.9 million per year.

The cost of shipping finished products from the Middle East is higher than that for crude oil. This is due to the lower cost of large dirty (i.e., crude or heavy fuel oil) service tankers compared to small clean service tankers used to ship light finished products (gasoline, distillate, etc.). Typically crude is shipped from the Middle East in VLCC's at rates of 25 to 30 percent of worldscale (worldscale is the standard rate for ships). Products such as gasoline are shipped on 40,000 to 70,000 ton clean ships with rates of 110 to 120 percent of worldscale. Table 22 shows a comparison of shipping costs for crude and products from the Middle East to the United States. The crude is shipped to the Gulf Coast via transshipment in the Caribbean since VLCC's cannot enter many Gulf Coast ports. The gasoline is shipped to New York Harbor in a 60,000 ton ship. Shipments of gasoline would be limited to 60,000 to the United States due to Suez transit and United States harbor limitations. New York Harbor is limited by depth to ships of about 60,000 tons.

As can be seen from Table 22, the cost of shipping products to the United States market is from $1.41 to $1.01 per barrel higher than shipping crude. When the crude is converted into product at the United States Gulf Coast and the cost of shipping from the Gulf Coast to New York is accounted for, the cost is still less than that for shipping product from the Middle East, as is illustrated in the following:

TABLE 22

COMPARISON OF COST OF SHIPPING GASOLINE AND CRUDE FROM MIDDLE EAST (QUOIN ISLAND) TO MAJOR UNITED STATES MARKETS

Shipping Route	Cargo	Ship Size (Long Tons)	World Scale ($/L Ton Jan'85)	Percent of World Scale	Canal and/or Entreport Fees ($/L Ton)	Barrels/ Long Ton for Cargo	Shipping Cost for Cargo ($/Bbl)
Quoin Island to Aruba	Crude	200,000 200,000	25.67 25.67	25 30	1.50 1.50	7.49 7.49	1.06 1.23
Aruba to U.S. Gulf Coast	Crude	70,000	5.38	100	-	7.49	0.72
Quoin Island to USGC Via Aruba	Crude	200,000 70,000	25.67 5.38	25 100	1.50 -	} 7.49	1.78
Quoin Island to USCG Via Aruba	Crude	200,000 70,000	25.67 5.38	30 100	1.50 -	} 7.49	1.95
Quoin Island to New York Suez Ballast, and Laden	Gasoline	60,000 60,000	19.80 19.80	120 110	2.75 2.75	8.63 8.63	3.19 2.96

*Via Cape of Good Hope

	Percent of World Scale	Shipping Charge ($/Barrel) To United States	Pipeline*	Total
Gasoline from Middle East to New York Harbor	120	3.19	-	3.19
Gasoline from Middle East to New York Harbor	110	2.96	-	2.96
Crude from Middle East to U.S. Gulf Coast, Gasoline to New York City	25	1.70	0.82	2.60
Crude from Middle East to U.S. Gulf Coast, Gasoline to New York City	30	1.95	0.82	2.77

*Colonial Pipeline Tariff

Based on the above table, it can be seen that the effective transportation cost for gasoline produced in the Middle East and shipped to New York is $0.19 to $0.59 per barrel above gasoline produced from Middle East crude in a United States Gulf Coast refinery and shipped to New York. Thus if crude prices are equal, Middle East refiners must charge more for gasoline marketed in the United States East Coast than United States Gulf Coast refiners who produce gasoline from Middle East crude.

In addition to a higher transportation cost for selling products in the United States, Middle East refiners will also have higher capital recovery costs. The higher cost results from a combination of the cost of new refineries compared to older refineries regardless of location and the higher cost of building refiners in the Middle East compared to United States Gulf Coast. It is estimated that construction costs from Middle East refiners can be as much as 60 percent above United States Gulf Coast prices. The net effect of these higher capital costs is to increase the capital charge which would be included in the cost of products.

The combined burden of higher transportation cost and higher capital cost would result in Middle East refiners becoming non-competitive with United States Gulf Coast refineries when selling finished products in the United States market, if they are paying the same price for crude. In order for Middle East refiners to sell product in the United States they must lower one of these cost components. The component which would be most easily lowered would be the crude cost. If this is done the competition between United States Gulf Coast refiners and Middle East refiners for United States markets would be determined by an effective two-tiered crude price in which the United States refiner pays the higher price.

TESTIMONY BY
PACIFIC RESOURCES, INC.
IN SUPPORT OF EXTENDING
ALTERNATIVE ENERGY TAX CREDITS
BEFORE THE
SENATE FINANCE COMMITTEE
ENERGY & AGRICULTURAL TAXATION SUBCOMMITTEE

PRI Pacific Resources, Inc.

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Pacific Resources, Inc. (PRI) appreciates the opportunity to submit testimony in favor of extending alternative energy tax credits currently slated to expire at the end of this year. To achieve this objective, we join the Hawaii Solar Energy Association in recommending that the Committee approve federal legislative initiatives such as HR 2001 sponsored by Representative Heftel, S 1220 sponsored by Senators Matsunaga and Hatfield, HR 1272 or S 1201. These bills would extend the energy tax credits through 1990, and they have attracted many cosponsors.

PRI markets solar equipment through its subsidiary PRI Energy Systems, Inc. We moved aggressively into alternative energy in 1978 and market a broad range of products for residential and commercial application. The company has been selected to provide solar systems for many major housing developments, including projects for the Hawaii Housing Authority. Photovoltaic cells are another PRI energy option.

As a leading marketer of solar products in Hawaii, PRI recognizes the importance of the federal energy tax credits to the solar option at this stage of its development. The residential and commercial energy credits have been instrumental in increasing the marketability of renewable energy devices, helping Hawaii save an estimated $600 million on energy costs since 1980. Much remains to be done, however. Hawaii is still dependent on imported petroleum for as much as 90% of its total energy supply. Although PRI is the primary supplier of petroleum-based fuels to Hawaii through our subsidiaries Hawaiian Independent Refinery, Inc., and Gasco, Inc., we recognize the importance of alternative fuels in Hawaii's energy future.

An extension and phase-out of the alternative energy credits makes sense, and will give the solar energy industry a little more time to mature before competing head to head with traditional energy sources. We do not believe it unwise to encourage expanded use of solar energy through public policy because we already encourage use of conventional energy through such means.

In "The President's Tax Proposal to Congress for Fairness, Growth and Simplicity" the Administration advocates continued tax preferences for intangible drilling costs (IDCs) in the following language: "Any (preference) reduction would increase the country's dependence on foreign energy, exacerbate the problem of the trade deficit, and again make the U.S. vulnerable to concerted political or market action by foreign energy producers. The clear national security interest in maintaining energy independence thus supports retaining cost recovery rules for IDCs that provide an incentive for domestic energy production." PRI believes that the national security interest is also furthered by continuing alternative energy credits, and at relatively minor cost, particularly if the credits are phased out.

Finally, PRI also supports extension of the credits from the perspective of a solar panel manufacturer. The company has manufactured custom-designed solar panels in a consortium with five other firms in the western United States. From the standpoint of a solar panel manufacturer, we stress the importance to this industry of a continued solar tax credit.

Although we are not there yet, we are nearing the day when the promising solar panel technology may be able to stand on its own and compete against established conventional energy systems. Elimination of the tax credit would reverse the progress of the solar panel industry towards commercial self-sufficiency. Proposals to allow the tax credits to expire have already resulted in considerable uncertainty about the future of this segment of the solar industry. An abrupt elimination of the tax credit would irreparably harm the panel manufacturing industry. In the event of a future energy crisis, any company would be reluctant to enter again the solar panel manufacturing business for fear that any tax credit incentive received may be short-lived.

In summary, PRI joins the Hawaii Solar Energy Association and others who have appeared before you today to request that you support the energy tax credit phaseout bills mentioned above. We believe that they represent a prudent investment in our nation's future energy security.

A PRELIMINARY ASSESSMENT OF FEDERAL ENERGY SUBSIDIES IN FY1984

Submitted to the Subcommittee on Energy and Agricultural
Taxation

21 June 1985

BY

H. RICHARD HEEDE[1], RESEARCH ASSOCIATE
ROCKY MOUNTAIN INSTITUTE[2]

I appreciate this opportunity to report the preliminary results of an analysis which I have performed during the past half-year under the supervision of Amory B. Lovins[3], who regrets that he was unable to attend this hearing. We believe this analysis is the most complete and up-to-date survey of Federal subsidies to the U.S. energy system, and that it should help the Congress to reach informed and balanced decisions about energy tax policy. My findings, in brief, are that:

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[1] I hold BAs in Philosophy and in Environmental Conservation and an MA in Geography, all from the University of Colorado. I have conducted extensive research, much of it at the National Center for Atmospheric Research and some as a private consultant, on world energy resources, climatology, and environmental economics.

[2] Rocky Mountain Institute is an independent, nonpartisan, nonprofit educational and research foundation which fosters the efficient and sustainable use of resources. RMI currently has a staff of 17 and a budget of $370,000 a year--the majority earned by consulting for electric utilities and allied industries and the remainder derived from foundation grants and private and corporate donations. RMI's programs explore the connections between energy, water, agriculture, national security, and local economic development. The research reported here is part of RMI's energy program.

[3] Director of Research, Rocky Mountain Institute; MA [Oxon.]; DDSc h.c.; Fellow, AAAS; former member, Energy Research Advisory Board, USDOE; former Regents' Lecturer (U.Ca.), Distinguished Visiting Professor (U.Co.), Henry R. Luce Visiting Professor (Dartmouth); international consultant, lecturer, and author. I am grateful to Mr. Lovins for his help in preparing this testimony.

- **Federal energy subsidies exceeded $46 billion in FY1984**--a figure far larger than had been previously supposed[4];
- these expenditures are **allocated very unevenly**, seriously hampering market competition; and
- the sums allotted to the various energy options **bear no relationship**--if anything an inverse relationship--**to those options' contributions** to meeting the Nation's energy needs in a timely and cost-effective way.

Purpose and scope

In 1982 alone, the U.S. energy sector invested $125 billion in new plant and equipment--nearly 40% of all such investments in the entire economy (see Table 1 and Figure 1)[5]. The *pattern*--the allocative efficiency--of this sector's investments will substantially determine the price and availability of energy for decades to come. The *amount* invested is also so large that it can reduce the availability of reasonably priced capital to other sectors. For example, 1982 direct investments (excluding subsidies) in nuclear power-plant construction were twice as large as total 1982 direct investments

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[4] Most previous ballpark estimates were in the vicinity of $10-20 billion per year. The highest estimate of which I am aware (Morgrn [1985]) suggested the $27-30 billion for tax expenditures alone, which is only slightly lower than my evaluation of this term. As I shall discuss, my $46+ billion figure is almost certainly conservative.

[5] Reproduced from Williams (1985), Note 3 and Figure 6.

Figure 1: Percentage of U.S. New Plant and Equipment Expenditures Committed to Energy Supply

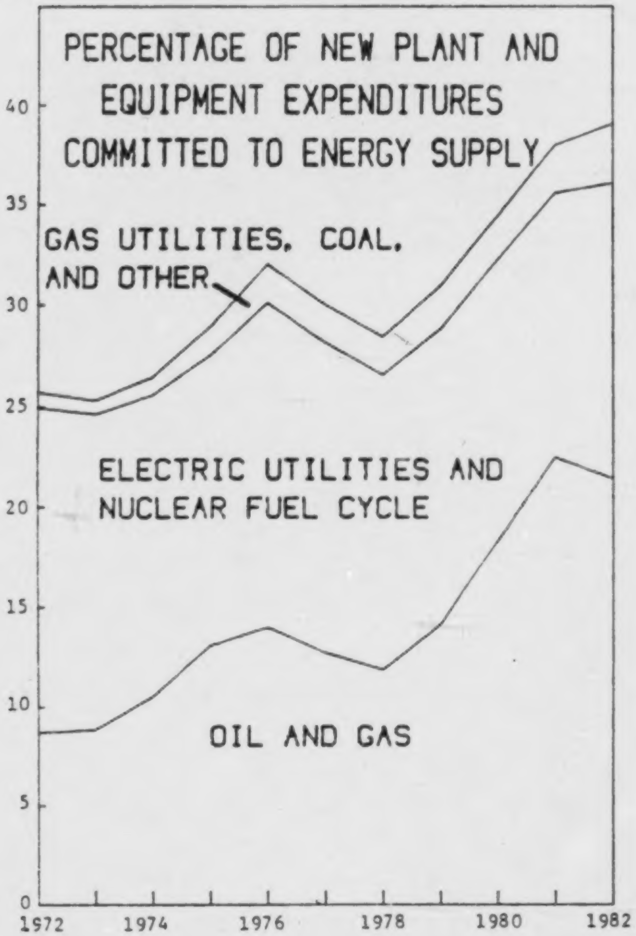

Table 1: Percentage of U.S. New Plant and Equipment Expenditures Committed to Energy Supply

3. The following are summary data for capital expenditures on energy supply (billions of current dollars).

	Capital Expenditures for Energy Supply							New Plant & Equipment Expenditures[g]	Percentage of New P&E Expenditures Committed to Energy Supply
	Oil & Gas[a]	Gas Util.[b]	Elec. Util.[c]	Nuc. Fuel Cycle[d]	Coal[e]	Other[f]	Total		
1982	68.4	6.8	40.2	3.9	4.2	1.5	125.0	316.4	39.5
1981	72.1	6.4	35.8	3.0	3.7	1.0	122.0	321.5	38.0
1980	53.9	5.4	35.9	2.4	3.6	0.5	101.7	295.6	34.4
1979	38.1	4.4	35.3	1.9	3.5	0.3	83.5	270.5	30.9
1978	27.4	3.6	30.3	1.87	2.44	-	65.6	231.2	28.4
1977	25.2	2.8	27.7	1.84	1.90		59.4	198.1	30.0
1976	24.0	2.4	25.2	1.52	1.64		54.8	171.5	32.0
1975	20.6	2.5	20.2	0.84	1.32		45.5	157.7	28.9
1974	16.5	3.0	20.6	0.49	0.83		41.4	157.0	26.4
1973	12.2	3.0	18.7	0.37	0.53		34.8	137.7	25.3
1972	10.5	2.8	16.7	0.27	0.60		30.9	120.3	25.7

Notes

(a) Oil and gas expenditures for drilling-exploration, production, refining, petrochemicals, marketing, crude oil and products pipelines, other transportation, and miscellaneous. Data are from February issues of the Oil and Gas Journal, various years. Expenditures for mining, other energy, and for lease bonuses are subtracted from the total capital expenditures tabulated for the oil and gas industry by the Oil and Gas Journal.

(b) Gas utility expenditures are from Gas Facts, the statistical record of the gas utility industry.

(c) Electric utility expenditures are obtained from the "Annual Statistical Report" Electrical World (March or April issues, various years).

(d) Includes capital expenditures on exploration and development, mining, and milling; and federal budget outlays for enrichment services. Data for 1977 and earlier are from Table 7.1, p. 128, in ref. (h). Data for 1979-1982 are from ref. (i). The value for 1978 was obtained by interpolation.

(e) Data for the years 1978 and earlier are from Table 7.1, p. 128, in ref. (h). Data for 1979-1982 are from ref. (i).

(f) Primarily synthetic fuel expenditures, with relatively minor outlays for solar energy, from ref. (i).

(g). The data presented here are for a data series on new plant and equipment expenditures begun in October 1980. The new series is considerably expanded (giving $198.1 billion for "total nonfarm business" in 1977, compared to $135.8 billion for "all industries" in the previous series). The main source of the difference in the totals arises from the expansion of the series to include: real estate; professional services; social services and membership organizations; and forestry, fisheries, and agricultural services. Data for 1977 and earlier years are from George R. Green and Marie P. Hertzberg, "Revised Estimates of New Plant and Equipment Expenditures in the United States, 1947-77", Survey of Current Business, October 1980. Data for subsequent years are from "Economic Indicators", prepared for the Joint Economic Committee by the Council of Economic Advisors, January 1985.

(h) Energy Information Administration, Annual Report to Congress 1978, Volume Three, April 1979.

(i) Bankers Trust Company, U.S. Energy and Capital: A Forecast 1980-1990.

in the motor-vehicle, iron, and steel industries combined[6]. It is therefore important to the industrial renewal and the economic vitality of this country, in both the short and the long term, that the enormous sums of capital flowing to the energy sector be very efficiently allocated.

The Internal Revenue Code contains provisions which are widely believed to distort investment, production, and consumption decisions throughout the U.S. economy, including--perhaps especially--in the energy sector. The Administration's tax reform proposal[7], here called Treasury II, is an ambitious effort to reduce some of the Code's inequities. My analysis suggests, however, that those inequities, reinforced by others arising elsewhere in the federal budget, are so large and pervasive that Treasury II will not greatly reduce them and may indeed increase some of them. To level the energy playing field, an even stronger--and fairer--remedy is needed.

There has been no comprehensive, systematic analysis of Federal energy subsidies since a 1978 Battelle report to DOE[8]. Its assessment, however, stopped in 1977, before many of today's tax incentives were enacted, and contained substantial internal inconsistencies and methodological problems. While these drawbacks were to have been alleviated in a Battelle update recently commissioned by DOE, its results would not have been available in time to support this year's Congressional decision-making, and in any event I understand DOE has recently cancelled the contract. As a public service, therefore, believing that Congress cannot wisely decide how to change present energy subsidies without knowing how big they are and who gets them, Rocky Mountain Institute undertook such an analysis, and is presenting the results here, at its own expense.

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[6] Edison Electric Institute (1983, p. 78) states that 1982 nuclear plant investment by Investor Owned Utilities totalled $16.46 billion, plus $1.748 billion for initial nuclear fuel loads. Since IOUs accounted for only 76% of total electric sales, and many public utilities spent heavily on nuclear construction, the total nuclear investment in 1982 was considerably larger than this $18.21 billion. (For example, if the Electrical World 1982 total-utility-industry investment of $40.2 billion cited by Williams [1985] was 39% for nuclear generation, the fraction reported by EEI for IOUs, then the total, including Williams's $3.9 billion of nuclear fuel-cycle investments, was at least $19.57 billion.) Conference Board data from Bureau of the Census (1983), p. 776, show that new plant and equipment expenditures were $5.61 billion for motor vehicles and equipment and $3.545 billion for primary iron and steel, a total of $9.16 billion.

[7] Department of the Treasury, (1985): Tax Reform for Fairness, Simplicity, and Economic Growth, May 1985, GPO, Washington DC.

[8] Battelle Northwest Laboratories (1978).

Quantifying energy subsidies even for a single year--in this case, Fiscal Year 1984--is an ambitious and complex task. I can only report here the first results of research which is still in progress; my final report will not be finished for several more months. While I cannot completely anticipate its findings, it seems safe to say that it will show a larger total subsidy than that given here, and that its allocation to the various sources will not change substantially. This is because I am filling in boxes in a large matrix whose rows are types of subsidies and whose columns are types of energy technologies. The results reported here reflect merely the sum and distribution of the major terms. The work remaining is simply to fill in many small terms which will somewhat affect the size, but should not materially affect the shape, of these early results. The full matrix, with supporting graphic analyses, will appear in my final report.

Throughout this testimony, I use the term "subsidy" as shorthand for the full range of Federal incentives and subsidies to the civilian energy sector of the U.S. economy. Since my concern is how much and how fairly the Federal Government influences the energy market, I have attempted to quantify the dollar value of *all identifiable Federal energy-related expenditures*, other than market purchases of energy for the Government's own use. These expenditures, listed in Appendices A, B, and C of this testimony, include:

- 17 types of **tax expenditures** (the largest class of subsidies);
- **program outlays** shown in 21 agencies' line-item budgets; and
- the value, assessed as a reduction in the marginal cost of capital, of direct **loans and loan guarantees** disbursed by eight Federal agencies.

Other incentives, such as the value of federal purchase and price guarantees, price controls, and sales of Federal energy assets below fair market value, are not assessed here but will be included in my final report. A few types of incentives, such as the Price-Anderson Act's ceiling on nuclear accident liability, are so hard to quantify that I have excluded them from the analysis. My colleagues and I have not yet decided whether or how to treat some basic features of current tax policy, such as the expensing of businesses' fuel and power expenditures, which are important to both private investment and public policy.

I include as "subsidies," then, all federal expenditures made *in support of the various energy forms*[9], regardless of whether they are production or consumption incentives, program outlays made to ameliorate market failures or externalities, or of some other sort. All such expenditures represent hidden costs of producing, converting, or using particular forms of energy: *they make the energy look cheaper than it really is*, because some of its real social cost is paid not through its price but through taxes. Believing that efficient investment in the market requires truthful prices, and that if people cannot tell what energy really costs they will not know how much is enough, I therefore seek here to quantify *all* Federal expenditures which distort the price we all pay and hence lead to *un*fair competition.

Another reason for taking this broad view of "subsidies" is that private investments tend to gravitate towards Federal dollars (as in the water-policy adage that "Water flows uphill towards money"). Institutionalizing and perpetuating Federal policy choices, such as the creation of the synfuels and nuclear industries, can affect market options and decisions for far longer than the immediate price distortions of short-term subsidies.

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[9] These are: crude oil including natural-gas liquids; natural gas; coal; synthetic fuels; fossil-fueled electric; nuclear-electric; fusion; hydroelectric; other renewables; and end-use efficiency.

Many of the data presented here are uncertain. Some are assessed differently by different agencies, and I have not yet entirely reconciled all the discrepancies, although all but one are minor[10]. Where a range of values is available, *I have consistently chosen the low end of the range* in order to ensure the conservatism of the total. This practice probably more than compensates for the apparent failure of my main sources, other than OMB, to account for interactions between different subsidies, the effect of which is generally to reduce their sum. It is therefore likely that my $46 billion total for FY1984 Federal energy subsidies is an underestimate.

One further caveat is in order. Although my organization are I are committed to sound and objective analysis, and many Government officials have kindly helped me to unravel obscure fiscal analyses, we have not been able to pursue this assessment in the depth and with the topical expertise which Congressional staff, CBO, OTA, CRS, GAO, OMB, Treasury, and other Federal bodies could bring to bear. We therefore hope that our findings will stimulate Congress--ideally both Houses jointly--to commission an independent and even more thorough analysis of Federal energy subsidies. Since the subsidies we have already found exceeded $46 billion in FY1984, and we expect the total, once all the smaller terms are counted, to exceed $50 billion a year--about a quarter of the current Federal budget deficit--we believe a prompt, well-funded re-analysis is appropriate.

Energy Subsidies by Type

TAX EXPENDITURES

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[10] The one is for Intangible Drilling Deductions. Senate Committee on the Budget (1982) projected this at $5.15 billion for FY1984; OMB (1985) estimated it had been $1.415 billion, similar to CBO's (1983) $1.27 billion for FY1983. Most or all of the difference is presumably due to the collapse of the drilling boom.

A favorite and apparently painless way for the Federal Government to institute a myriad of incentives is through special provisions in the tax code. These now account for the largest portion of subsidies, worth $31.6 billion (69%) of the $46 billion in Federal energy expenditures[11] for Fiscal Year 1984.

The major tax expenditure items are the Accelerated Cost Recovery System (ACRS, $11.8 billion)[12], the Investment Tax Credit (ITC, $5.3 billion)[13], the Expensing of Construction Period Interest ($4.1 billion)[14], and the tax-exempt status of public utilities (a total of $4.4 billion for both bond interest exemption and income tax exemption)[15]. These expenditures primarily benefit electric utilities, especially nuclear plant construction, and secondarily the oil and gas industry, because of these recipient's high capital intensity. The much-discussed Intangible Drilling Deduction and the Depletion Allowance, in contrast, total only $2.6 billion for oil and gas and $500 million for coal[16]. Appendix A lists the major tax expenditure items and their estimated revenue losses for FY1984.

PRINCIPAL PROGRAM OUTLAYS

The Department of Energy is the major dispenser of public funds for RD&D and other energy outlays ($4.0 billion in FY1984, of which civilian fission accounted for $1.75 billion and civilian fusion for $606 million)[17]. The Departments of Labor and of Health and Human Services together disbursed $1.4 billion for the Black Lung program[18]. The Army Corps of Engineers spent $577 million in its work allocatable to the waterborne transport of oil, gas, and coal, and an additional $445 million on the construction, rehabilitation, and operation and maintenance of hydroelectric dams[19]. The Nuclear Regulatory Commission had an energy-related budget of $466 million[20], and the Environmental Protection Agency performed work related to the environmental impacts of energy at an estimated cost of $280 million[21]. A number of other agency outlays are listed in Appendix B--mostly fossil-fuel-related mineral surveys and mine safety programs.

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[11] Here and elsewhere in this testimony, these figures represent my preliminary results, which will change (and whose total will increase) as more small terms are added to the matrix.

[12] DOE (1985) and Morgan (1985).

[13] DOE (1985) and Morgan (1985).

[14] Morgan (1985).

[15] Calculation based on an estimated $69 billion worth of public utility bonds outstanding. See also Chapman (1984).

[16] OMB (1985c).

[17] DOE (1984) and OMB (1985).

COST OF LOANS AND LOAN GUARANTEES

Some very large costs to the American taxpayer result from favorable interest rates offered by the Federal Financing Bank through various agencies. Most of these costs (interest-rate subsidies and occasional defaults on principal repayments) are off-budget and hence tend to escape routine scrutiny in Congress and the press. In FY1984 the Rural Electrification Administration cost the taxpayer $3.97 billion[22]. Preliminary calculations indicate that the Tennessee Valley Authority spent $780 million of unrecoverable funds[23], while the Bonneville and other Power Administrations cost the

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[18] OMB (1985) (Budget Appendix).

[19] House of Representatives (1983) and OMB (1985).

[20] OMB (1985).

[21] EPA (1983) and OMB (1985).

[22] Congressional Budget Office (1984).

[23] TVA (1984).

Treasury $420 million (this figure is for FY 1982)[24]. The total for this type of expenditure, all unrecoverable from agency revenues, was $5.54 billion[25].

Federal Expenditures by Energy Form

The subsidies just summarized are shown in Table 2, with details in Appendices A, B, and C. The main subsidies can be restated thus by energy form:

CRUDE OIL

The oil sector received $8.58 billion in FY1984, the main items being the ITC ($1.89 billion), ACRS ($3.78 billion)[26], Intangible Drilling Deduction ($890 million), and Depletion Allowance ($740 million)[27]. Agency outlays in support of oil supply and use totalled $1.27 billion, including $159 million for construction and administrative costs (but not for oil acquisition costs) of the Strategic Petroleum Reserve.

NATURAL GAS

Federal subsidies for natural gas totalled $4.61 billion in FY1984, the principal items being the same as for crude oil, and agency outlays were $319 million.

COAL

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[24] President's Private Sector Survey (1983).

[25] This section of my analysis is not complete, and expenditures are likely to increase. I have, for instance, not yet evaluated the DOE's decision to not seek private sector recovery of 60 percent of the $2.0 billion (i.e. $1.2 billion) as yet unrecovered federal capital investment in gaseous diffusion uranium enrichment plants. An additional $6.0 billion of other enrichment costs remains to be recovered. See GAO (1984). Similarly, the six Power Marketing Administrations owe $12 billion to the taxpayer (see Stockman [1985]).

[26] See Morgan (1985) for a discussion of these credits. I have used the lower range of his estimates, and allocated between oil and gas pro rata on 1984 extraction.

[27] OMB (1985c).

Table 2: Federal Energy Subsidies In FY1984

(millions of 1984 dollars)

ENERGY RESOURCE OR TECHNOLOGY	TAX EXPENDITURES	AGENCY OUTLAYS	COST OF LOANS & GUARANT.	TOTAL FEDERAL SUBSIDIES
crude oil & NGL	7,310	1,271	NYA	8,581
natural gas	4,292	319	NYA	4,611
coal	1,275	2,124	12	3,411
synthetic fuels	360	184	100	644
fossil electric	5,523	211	1,425	7,159
nuclear electric	10,236	2,284	3,320	15,840
nuclear fusion	NYA	606	NYA	606
hydroelectric	947	1,076	NYA	2,628
other renewables	1,406*	290	NYA	1,696*
efficient use	280	510	74	864
TOTAL	~~31,629~~	8,875	5,536	46,040

NYA = not yet available or not yet applicable

*includes $545 million slated to expire at the end of 1985; all other subsidies shown will continue, unless altered by proposed tax reforms or changes in budget allocations

Note on fossil-electric subsidies: In separately evaluating subsidies to electric utilities, subsidies to fossil-fuel supply should be prorated on the basis of utility fuel inputs and added to the fossil-electric subsidies shown. Thus in 1984, 6.2% of oil production ($0.53 billion in subsidies), 18.1% of gas production ($0.83 billion in subsidies), and 71.6% of coal production ($2.44 billion in subsidies) was consumed as inputs to fossil-electric power plants. Those plants' total subsidies were thus $7.16 + 3.80 = $10.96 billion.

As explained in the text, the data shown in the Table are preliminary; additional research will increase the totals shown, although it should not greatly alter their distribution among the various sources.

Tax expenditures for coal are less liberal than for oil or gas and totalled $1.28 billion (including $165 million for the tax-exempt status of Black Lung benefits)[28]. Agency outlays were dominated by payments of Black Lung benefits ($1.4 billion)[29]. Various other agencies spent $348 million on mineral surveys and mine safety programs.

SYNTHETIC FUELS

Since the Synthetic Fuels Corporation was relatively inactive in FY1984, total expenditures were $644 million--mostly as Investment Tax Credit and Accelerated Depreciation.

FOSSIL ELECTRIC

This category includes oil-, gas-, and coal-fired generating plants[30]. As with oil and gas resources, the major items were tax subsidies like the ITC ($470 million) and ACRS ($1.14 billion)[31]. Other large expenditures were expensing of construction-period interest ($980 million), public-utility tax exemptions ($1.53 billion), exempt bonding authority of public utilities ($800 million), and fossil electric's portion of the cost of REA loans and guarantees ($950 million)[32].

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[28] CBO (1983).

[29] OMB (1985).

[30] This analysis excludes cogeneration, on which DOE no longer keeps data but which in 1984 generated about 7% of U.S. electrical output (up from 5% the previous year), compared with central fossil-fueled stations' 71% or so (fossil-fueled internal-combustion devices owned by utilities supplied an additional 2%). Approximately a fourth of the cogeneration is believed to be biofueled, chiefly plants burning wood wastes in the forest-products industries.

[31] Morgan (1985); allocated to fossil electric (24%), nuclear (73%), and hydro (3%) on the basis of construction outlays by Investor Owned Utilities. See Edison Electric Institute (1984).

[32] CBO (1984), allocated on same basis as in footnote 31.

NUCLEAR ELECTRIC

As Table 2 clearly shows, nuclear energy is the dominant beneficiary of taxpayer subsidies. Federal policy has long favored heavy investments in nuclear RD&D[33], loans at below-market rates, and (because of the plants' high cost) especially large tax expenditures, including the recently growing use of tax-exempt pollution-control bonds[34]. As a result, the total FY1984 subsidy for nuclear energy was $15.84 billion.

FUSION

Since terrestrial nuclear fusion is not likely to produce civilian power for decades if ever, it received no FY1984 tax incentives. Consequently, the only item is DOE's RD&D budget ($606 million).

HYDROELECTRICITY

The total subsidy for hydropower was $2.63 billion in FY1984. The Army Corps of Engineers spent $445 million[35], and the Bureau of Reclamation $170 million[36], for the construction and rehabilitation of federal power dams. In addition, DOE spent $440 million, mostly through the Power Marketing Administrations[37]. REA, TVA, Bonneville, and other PMAs received subsidies of $605 million[38], all unrecoverable from agency revenues and excluding the accrued $12 billion in principal and interest arrears owned by PMAs to the Treasury[39].

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[33] $1.75 billion by DOE alone on reactor design, civilian waste RD&D, civilian enrichment, waste transportation, environmental impacts, and so on. See DOE (1984), House of Representatives (1984), and OMB (1985).

[34] This item cost the Treasury an estimated $730 million in 1984. See Morgan (1985); allocated to nuclear as in footnote TK.

[35] House of Representatives (1983), and OMB (1985).

[36] OMB (1985).

[37] DOE (1984), and OMB (1985).

[38] CBO (1984), PPSS (1983), TVA (1984). See also Stockman (1985) regarding $12 billion owed the Treasury by the PMAs.

OTHER RENEWABLES

This category includes a number of emerging energy technologies[40] which the Federal Government subsidizes through DOE's RD&D ($261 million in FY1984) and various tax incentives. The tax expenditures for the group of renewables totalled an estimated $1.4 billion in FY1984: $560 million for ITC and ACRS[41], reflecting a rapidly growing level of private investment; $325 million for residential supply incentives[42]; $220 million for business supply incentives[43]; and $215 million through alcohol fuel exemption from the gasoline excise tax[44].

END-USE EFFICIENCY

The largest federal expenditure on the efficient use of energy is funnelled through DOE--$509 million in FY1984, about 40% of which is for RD&D and the remainder grants to the States[45]. Residential conservation credits accounted for a revenue loss of $270 million[46]. Total subsidies: $864 million.

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[39] Stockman (1985).

[40] Wind energy, geothermal (not strictly renewable), photovoltaics, solar thermal electric, solar thermal, ocean thermal energy conversion, wood, and other biomass.

[41] Estimated from Morgan (1985).

[42] OMB (1985).

[43] Id.

[44] Id.

[45] DOE (1984).

[46] OMB (1985).

TOTAL FOR ALL ENERGY FORMS

The grand total of Federal subsidies in FY1984, based on my incomplete and conservative assessment so far, is $46.040 billion, of which tax expenditures resulted in a revenue loss of $31.629 billion, program outlays totalled $8.875 billion, and the cost to the Treasury of federal loans and loan guarantees was $5.536 billion.

Discussion

While the $46+ billion annual price tag of energy subsidies is rightly of concern to Congress and taxpayers, accounting for close to a quarter of the projected Federal budget deficit, the uneven distribution[47] of those subsidies shown in Figure 2 may have even more disagreeable consequences. Skewed subsidies tilt the energy market towards the disproportionately subsidized industries, giving them an unfair advantage over their rivals. The efficient allocation obtainable in a truly free market is thus abrogated. Each Federal dollar of asymmetric subsidy then leverages many more dollars of private investment attracted by the extra subsidies, while cheaper alternatives remain undercapitalized. The taxpayer then pays twice: once for the subsidies and again, much more and longer, for the higher energy prices resulting from the inefficient investments. By hiding real costs, promoting overinvestment and overconsumption, and thwarting fair competition, the degree of unevenness shown in Figure 2 *creates* market failure.

An even more striking illustration of the asymmetry of present Federal energy subsidies is shown in Table 3, which compares the 1984 "bang-to-buck ratio" of the various energy options--how much energy each one supplied per dollar of subsidy. By

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[47] Uneven not only between different types of options but within each type. Consider, for example, the electricity market: nuclear power and hydropower each generate slightly over 13% of total electricity, yet nuclear receives 54% of the subsidies to the electric sector while hydro receives 9%. Fossil electricity, in contrast, generates 73% of our power and receives 37% of the subsidies. See note with Table 2; see also Table 3.

Figure 2: Summary of Federal Energy Subsidies in FY1984

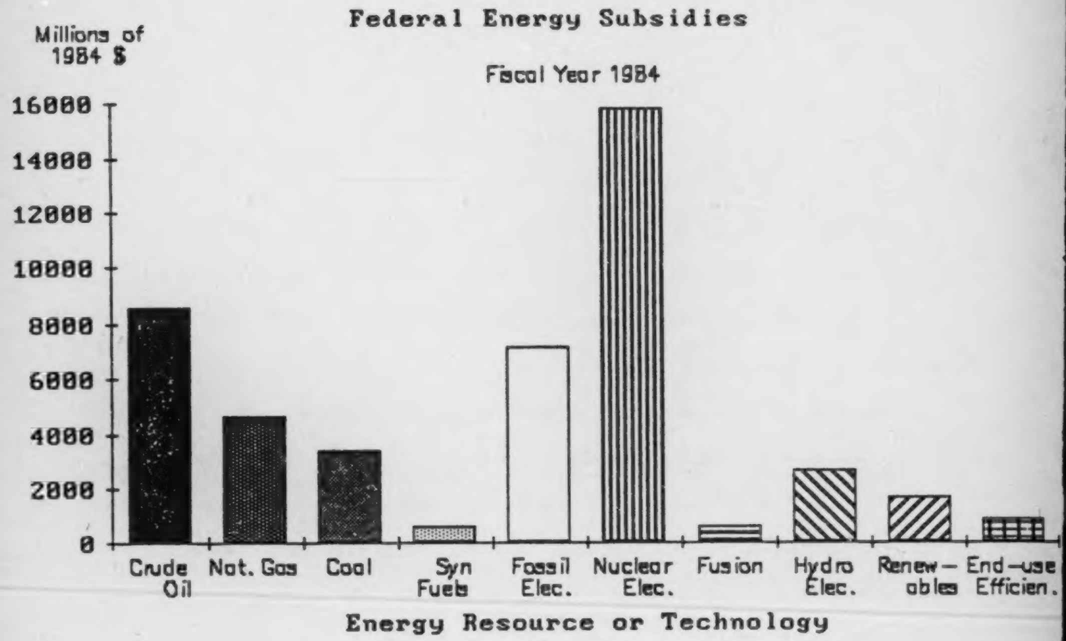

Table 3: Energy Supplied per Dollar of Subsidies

(million BTU[1] supplied during calendar year 1984 per 1984 $ of Federal subsidy expended during Fiscal Year 1984)

ENERGY RESOURCE OR TECHNOLOGY	SUBSIDIES (MILLION $)	ENERGY SUPPLIED[2] (10^{15}BTU)	ENERGY SUPPLIED/ SUBSIDIES PAID (10^6BTU/1984$)
crude oil & NGL	8,581	20.957	2.4
natural gas	4,611	17.750	3.8
coal	3,411	19.696	5.8
synthetic fuels	644	0	0
fossil-electric	7,159	6.002[3]	0.8
nuclear-electric	15,840	1.110	0.07
nuclear fusion	606	0	0
hydroelectric	2,628	1.096	0.4
other renewables	1,696	2.929[4]	1.7
efficient use	864	11.26[5]	13.0[6]

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[1] At the busbar, minemouth, or wellhead; electricity at 3,413 BTU/kW-h.

[2] Due to the conversion of fuels to electricity and the inclusion of savings, the total of this column does not equal U.S. primary energy consumption, which in 1984 was 76.63 q (see note 4 for the term to be added to EIA's 73.73 q).

[3] Excluding fossil-fueled cogeneration, which probably supplied about 5.5% of 1984 U.S. electrical output. Most biofueled cogeneration is included in the subsidy and supply terms under "other renewables" below.

[4] DOE estimates consumption of wood and wood wastes in 1984 as 2.8 q, consistent with EIA estimates of 2.48 q in 1982 and 2.64 q in 1983 (DOE/EIA-0341[83]). I use these estimates in preference to the higher ones (3+ q in 1984) prevalent in the industry. Other renewable contributions are estimated: solar domestic hot water, 0.01 q (650k active systems installed at mid-1984, each supplying half of a household's average 1980 use of 218 average W, rounded from 0.007 to 0.01 q to account for passive systems); active solar space heat, 0.003 q by a similar method; passive solar space heat, 0.03 q (ca. 1 million homes each getting half of the average 1980 load of 2.14 kW); bioethanol 0.05 q (5% of 1984 sales of 103 billion gallons of gasoline blended with 10% ethanol @ 87,000 BTU/gallon); miscellaneous crop-waste fuels 0.007 q (judgmental); geothermal, wind, wood, waste, solar-thermal, photovoltaic, and other non-hydro renewable sources of utility electricity, 0.029 q (EIA). This total, 2.929 q, is reasonably consistent with the 2.63 q for 1983 estimated in the Gas Research Institute's 1984 Baseline Projection (10/84).

[5] At the 1973 primary energy/real GNP ratio, the U.S. in 1984 would have used approximately 22.52 q more primary energy than it actually used, including EIA's wood-use estimates (1.53 q in 1973, 2.64 q in 1984) and 0.10 q of other non-hydro renewables in 1984. Most of this saving is from improved technical efficiency--fewer BTU per ton of steel, passenger-mile of transportation, sq ft-degree day of space conditioning, etc. A minor amount is due to behavioral change which does not directly affect GNP. On the order of a sixth is due to shifts in the composition of industrial output; nearly a third, to 1973-84 growth in real GNP reflecting higher real energy prices. Some analysts would prefer to factor out at least these last two effects; to accommodate them, I have conservatively reflected in Table 3 only half the total savings in the energy/GNP ratio. On the other hand, while the 1973-84 primary energy/GNP ratio fell by 22.7%, the end-use energy/GNP ratio--a truer reflection of the technical efficiency of using energy--fell by 27.8%. By the latter measure, the 1973-84 saving was 22.42 end-use quads, equivalent at 1984 levels of energy-system losses to 29.46 primary quads, or 31% more than the 22.52 q assumed here and then halved.

[6] Using the conservatively halved savings described in note 3. Using the full savings, this figure would be 26.1.

this measure of contribution to meeting the Nation's energy needs, energy efficiency pulled far more than its weight, supplying 13-26 million BTU per dollar of subsidy, depending on the definition of savings used; coal, gas, oil, and other renewables supplied several million BTU per dollar; fossil electric supplied less than one million BTU per dollar, nuclear electric supplied less than a tenth of a million, and synfuels and fusion supplied zero.

Another measure of the imbalance between different options' subsidies and their energy contributions can be calculated from Table 3: oil and gas supplied 52% of the Nation's energy service needs[48] while getting 29% of the subsidies, a "service-to-subsidy" ratio of 1.8; efficiency and renewables met 17% (or, using the full estimate of savings, 31%) of energy service needs while getting 11% of the subsidies, a "service-to-subsidy" ratio of 1.5-2.7; and nuclear fission met 1.5% of energy service needs while getting 34% of the subsidies, a "service-to-subsidy" ratio of only 0.04. Yet despite this heavy Federal hand on the market scales, nuclear power, after several decades and a total private and public investment on the order of $200 billion, is now delivering about half as much energy as wood[49], while renewable sources are outpacing nonrenewables and energy savings are far outpacing *all* net expansions of energy supply[50]. How much better still might these competitive sources do if allowed to compete fairly against alternatives no more heavily subsidized than they are?

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[48] That is, energy actually supplied plus a minimum estimate of the amount saved by improved efficiency. As noted in the notes to Table 3, this minimum estimate is only half of the total saving represented by the improvement in the energy/GNP ratio since 1973.

[49] If the ratio of industrial to residential woodburning in 1984 was DOE's 1.78:1 and if combustion efficiencies were respectively 0.8 and 0.5, then DOE's estimate of 2.8 q of woodburning in 1984 corresponds to delivered energy of 1.94 q. (Some trade groups estimate that actual 1984 woodburning was upwards of 3 q.) In comparison, nuclear power in 1984 sent out 325.18 TW-h of electricity with a heat content of 1.11 q, of which, net of national-average 5.43% grid losses, 1.08 q was delivered to customers.

[50] During 1979-83, according to EIA data, the United States got more than a hundred times as much new energy from savings (based on the reduction in primary energy/GNP ratio) as from all net expansions of energy supply combined. The Nation's energy supply, too, was increased more by by sun, wind, water, and wood than by oil, gas, coal, and uranium.

Comments on the Treasury II Proposal[51]

The Treasury II proposal begins to correct many distortions and unfair provisions of the Internal Revenue Code. Not so with respect to the energy sector, however. My preliminary analysis of Treasury II's provisions suggests that it would make competition between energy technologies *less* fair by eliminating nearly all tax incentives for renewable energy and energy efficiency improvements while keeping the preponderance of tax benefits for conventional fuels and electric utilities: they would lose a smaller percentage of a larger initial subsidy value. This might promote economic growth in the favored energy sectors--but the kind of high-cost, subsidized, wasteful, narrowly based growth the country can ill afford, especially if the United States is to compete with other nations which are rapidly improving their energy and economic efficiency.

Furthermore, Treasury II, by reducing subsidies more to renewable than to nonrenewable sources, will further bias investment towards nonrenewables[52]--a result contrary to the Nation's long-term sustainability, to the dictates of national security, and to the commonsense principle of backing winners. (Renewables have supplied more new energy since 1979 than the net increase in all nonrenewable supplies; the 1979-84 *increase* in annual renewable supplies exceeds all the Arab oil used in the U.S. in 1984.) In fact, subsidizing nonrenewables far more than renewables has the especially perverse effect of hastening the depletion of the nonrenewable resources while discouraging the gradual process of installing replacements for them--thus creating a discontinuity in National energy supplies in the decades ahead, even though a free market would have yielded a smoother process of gradual replacement. This policy therefore puts us on the course of a less efficient and less resilient economy.

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[51] These comments are my personal opinions on the basis of my analysis and my preference for the free market.

[52] Since resources are not really exhaustible, geologically speaking, I prefer the term non-renewable. It is a matter of production at a reasonable cost relative to alternatives and substitutes. The production cycle for petroleum resources approximates a bell curve, and the U.S. passed the peak of production around 1970: in other words, it is inevitable that domestic extraction will continue to decline. The energy and economic cost per unit of production will increase as the cheaper resources are exhausted. This is why it is imperative to have the market reflect the full cost of the consumption of a resource: only then can market prices give alternatives the necessary economic incentive to compete. See Heede (1983).

Treasury II is arguably better--at least it loses the Treasury less revenue--than continuing all existing energy subsidies. Its energy provisions, however, are unfair to taxpayers, inimical to national security, and hostile to free enterprise. It does not promote the kind of economic growth and innovation this country needs. The original Treasury I proposal, with its more sweeping and evenhanded desubsidization of the energy sector, would have been considerably fairer.

My own preference is for the orderly, universal, and across-the-board desubsidization of *the entire energy sector*, for reasons of revenue enhancement, basic fairness, real economic growth, and national security. It is better economics to subsidize *no* kind of energy supply (or saving) than to try to subsidize them all equally. Currently, however, the subsidies are far from equal by any measure, as Figure 2 and Table 3 show.

If Treasury II is not amended to provide this transparently simple provision, I therefore urge Congress to pass H.R. 2001 while preparing comprehensive desubsidization legislation. This will at least ensure that the relatively meager incentives currently given to renewable energy supplies--9% of our Nation's total energy supplies today, and the fastest-growing part--will be phased out gradually rather than (for the most part) abruptly at the end of this year. If, however, as I hope, the entire energy sector *is* desubsidized on a gradual schedule, then renewable subsidies should be phased down at the same rate. H.R. 2001 indeed offers a good model for gradual desubsidization which I believe could and should be applied equally to *all* energy options.

APPENDIX A

FEDERAL TAX EXPENDITURES ON ENERGY, FY 1984
in millions of 1984 $

Accelerated depreciation (ACRS)	$11,830
Investment tax credit (ITC)	5,310
Construction Period interest deduction	4,100
Public utility tax exemption	2,088
Exempt bonding authority of public utilities	2,240
Exempt pollution-control and similar bonding	1,000
Utility dividend reinvestment credit	415
Accelerated amortization	61
Intangible drilling deduction	1,555
Depletion allowance	1,545
Business energy credits	230
Residential energy credits	595
Alcohol exemption from gasoline excise tax	215
Alcohol fuels credit	negl.
Other tax expenditures	345
TOTAL TAX EXPENDITURES	$31,629

APPENDIX B

PRINCIPAL AGENCY OUTLAYS ON ENERGY, FY 1984
in millions of 1984 $

Department of Energy	$4,049
Departments of Labor and Health and Human Services	1,403
Army Corps of Engineers (DOD)	1,022
Nuclear Regulatory Commission	466
Environmental Protection Agency	280
Naval Petroleum Reserve (DOE)	256
Bureau of Reclamation (DOI)	170
Strategic Petroleum Reserve (DOE)	159
Internal Revenue Service	193
United States Geological Survey (DOI)	76
Bureau of Land Management (DOI)	91
Minerals Management Service (DOI)	162
Bureau of Mines (DOI)	46
Mine Safety and Health Administration (DOL)	117
Office of Surface Mining Recl. and Enforcement (DOI)	125
Federal Energy Regulatory Commission	46
Coast Guard (DOT)	161
International Atomic Energy Agency (DOS)	18
TOTAL PRINCIPAL AGENCY OUTLAYS	$8,875

APPENDIX C

COST OF LOANS AND GUARANTEES TO ENERGY, FY 1984
in millions of 1984 $

Tennessee Valley Authority	$779
Bonneville Power Administration	260
Other Power Marketing Administrations	156
Rural Electrification Administration	3,966
Maritime Administration	nya
Synthetic Fuels Corporation	100
Department of Energy	nya
Export-Import Bank	275
TOTAL COST OF LOANS AND GUARANTEES	$5,536

nya = not yet available

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Denis Hayes
Chairman

TESTIMONY OF WILLIAM HOLMBERG
SUBMITTED TO THE
SUBCOMMITTEE ON ENERGY & AGRICULTURAL TAXATION
U.S. SENATE
June 21, 1985

Mr. Chairman, my name is Bill Holmberg, Legislative Director of the Solar Lobby. I am a retired Marine officer, served at the Environmental Protection Agency, and then retired from the Senior Executive Service while at the Department of Energy. The Solar Lobby is a national nonprofit membership organization with more than 25,000 active individual members and a large informational network of cooperating state and local groups. We are not a trade association but rather represent the consumer directly in furthering all the "solar" or renewable energy technologies and conservation. We appreciate the opportunity to present our views.

My testimony reflects the position of more than 100 national, state, and local organizations that have endorsed S. 1220 and a May 30 joint statement of ten environmental, consumer, and public interest organizations on the President's tax reform proposal. I would like to submit for the record the joint statement and the list of organizations endorsing S. 1220. This bill was introduced on May 23 by Sen. Mark Hatfield, Sen. Spark Matsunaga, and a number of colleagues. Cosponsors include Senators Alan Cranston, Alan Dixon, James Exon, Gary Hart, Tom Harkin, Paula Hawkins, Chic Hecht, Howell Heflin, Edward Kennedy, John Kerry, Carl Levin, Paul Sarbanes, and Lowell Weicker.

Mr. Chairman, the United States cannot be assured of a secure energy future unless we proceed wisely, with the understanding that tax decisions will in fact be setting energy policy for generations to come.

The Solar Lobby supports a balanced energy future that protects the environment, reduces dependence on imported oil, creates jobs, and enhances national security. These goals can best be pursued not by perpetuating tax incentives that skew pricing structures, but rather by the application of free market forces at the individual, corporate, and community levels in response to local energy conditions.

Mr. Chairman, that is why the Solar Lobby, environmental, and public interest groups supported Treasury One. That is exactly why we do _not_ support the energy provisions of Treasury Two. These provisions would put renewable energy technologies at a significant disadvantage. We believe that energy tax incentives for _all_ the energy technologies should be equitably adjusted to enhance competition, and then phased out on a schedule that is both prudent and fair. For purposes of clarification, energy technologies in general include: oil, gas, coal, nuclear, electric utilities, synfuels, conservation, and renewable energy. Renewable energy includes solar thermal, photovoltaics, wind, hydropower, biomass including ethanol, geothermal, and ocean thermal energy.

The renewable energy technologies have earned their place at the table with conventional energy groups. For example:

- Renewable energy now provides almost 10% of the primary energy needs of the country—more than twice the amount provided by nuclear--according to a new study by the Center for Renewable Resources, educational affiliate of the Solar Lobby. With equitable federal treatment, that renewable energy contribution could reach 20% by the year 2000.

- Renewable energy sources have made this contribution with about $1 billion in annual tax expenditures, as compared to about $27 billion for the conventional energy industries, according to the Environmental Action Foundation.

- From 1980 to 1984, renewable energy technologies received 4,470 megawatts of new orders for electricity. During the same period, nuclear and coal witnessed a net cancellation of more than 65,000 megawatts. This is the marketplace talking, but the Administration is not listening. Instead, Treasury Two proposes to take action that will seriously disadvantage the renewable energy industries, most of which are small businesses, while continuing to advantage the electric utilities.

- In the past decade, the United States has spent more than $550 billion for imported energy--$60 billion in 1984 alone. This monetary hemorrhage is adding seriously to the federal deficit and must be stopped. Renewable energy technologies will certainly help stop it.

- Expanded use of renewable energy technologies will generally benefit the environment, particularly in terms of reducing acid rain and carbon dioxide buildup and limiting other water and air pollutants.

- Finally, Mr. Chairman, renewable energy's greatest contribution is in the area of national security. These technologies meet all of the key national security tests. They are decentralized and less vulnerable in the event of a major disaster than conventional technologies. They are abundant domestic resources, freeing us from more dependence on foreign sources. They are nondepletable and thus are much preferable to fossil reserves that can be used up with resulting jeopardy to national security. Moreover, the proliferation of renewable energy technologies—hopefully through U.S. sales—will help reduce the world's dependence on Middle East and Communist block oil. The Administration, however, clings to the national security argument to justify extending tax credits for oil and gas and then changes its logic to continue opposition to renewable energy credits.

Under Treasury Two, the Administration would restore major tax privileges for oil companies and other nonrenewable energy industries while renewables and conservation would lose their most significant tax benefits. At a Solar Lobby press conference on Capitol Hill on May 30, the Lobby and nine other groups issued the joint statement calling this action "unfair and unwise. It jeopardizes our most cost-effective means to energy security and it hurts the very kind of entrepreneurs whom the President has rhetorically praised—the small businesses that are developing renewable energy technologies."

Mr. Chairman, as you know, Treasury Two would restore most of the oil and gas benefits that Treasury One would have removed. Among the most inequitable of these loopholes is expensing of intangible drilling costs. Under the new plan, according to the Treasury Department, "in 1986, 31,000 people with adjusted gross incomes over $100,000 . . . would receive an average benefit of approximately $28,000." Meanwhile, the moderate-income homeowners who want to insulate their homes or install efficient furnaces or solar water heaters would lose their benefits.

The public interest group statement from the press conference notes that while Treasury One would have eliminated all depreciation benefits, the depreciation provisions of Treasury Two would be even more generous to electric utilities than existing depreciation provisions. Moreover, renewable energy facilities would lose half their depreciation benefits, in addition to losing the renewable energy tax credit.

Renewables are now in the five-year depreciation category. Under Treasury Two, they would be put in a ten-year category, giving them smaller writeoffs. Meanwhile, coal-fired plants would be moved from a fifteen-year period down to a ten-year period, increasing their writeoffs. Nuclear plants would remain in a ten-year category; by contrast, Treasury One would have put all power plants into a thirty-eight year category. Environmental Action Foundation calculates that the depreciation changes for coal and nuclear plants would mean an added cost to the Treasury of $3.5 billion a year as compared to Treasury One. The cost of this change over just a five-year period ($17.5 billion) would thus be 8 times greater than the total cost of S. 1220 over its five-year lifetime. Under Treasury Two, the percentage depletion allowance for oil and gas would be phased out over five years for most wells. We call on Congress and the Administration to establish an equitable phaseout of all federal tax subsidies. At the very least renewable and conservation tax credits should be phased out on the same schedule as benefits for oil and gas.

With the advantages of renewable energy and the disadvantages of Treasury Two already outlined, the questions that now logically flow are three:

Q: Considering all of the advances of renewable energy technologies, why are tax credits for them needed?

A: Under Treasury One conditions, the renewable technologies could fight it out in the marketplace—many would survive, some would not. But Treasury Two's bias toward oil, gas, and the utilities skews the marketplace again. The Department of Energy subsidies automatically give an advantage to nuclear power. Our team is in trouble. We need fair treatment in the tax code.

Q: Why doesn't the Administration support conservation and renewable energy?

A: I refer to the contents of the DOE/EIA Monthly Energy Review. With the exception of hydropower (which periodically rates a column of figures in the review), conservation and the renewable energy technologies are mentioned only superficially or as mere footnotes. It is entirely possible that the President of the United States and some senior cabinet officials do not know that renewable energy provides the nation with twice as much primary energy as does nuclear power and at a fraction of the federal subsidies that nuclear enjoys. Nor have they probably been told about the promising technological advances in the renewable energy industries.

Another reason for lack of full support for the renewable energy industries lays at the feet of the industries themselves. The hucksters and the tax credit peddlers have visited our house. Because of our enthusiasm for the promise of renewables, some initially slipped right by to do great damage to the reputations of the overwhelmingly honest sectors of renewable energy industries. The industries have taken important steps in the cleanup process already; as a consumer organization, we would welcome the opportunity to work with the Congress on increasing consumer protections. However, we don't believe that the majority of renewable industries should be punished for the transgressions of a small minority. These transgressions are peanuts compared to those of the big energy boys. Neither the Teapot Dome scandal of the oil industry or the more recent tens of billions in oil overcharges and nuclear plant cost overruns brought these industries en masse to the bench for federal execution. When dealing with renewable industries, let's not throw the baby out with the bath water.

Q: What is the recommended solution?

A: Accept the renewable energy technologies as maturing, valuable industries with a promising future. Treat us fairly in comparison with other energy technologies. In the interest of a fair and affordable energy policy, the Solar Lobby and the nation's other major environmental and consumer organizations have no choice but to stand solidly behind extension of the renewable energy and conservation tax credits as outlined in S. 1220. As you can see from the attached list of more than 100 endorsing organizations, they range from large national groups such as the Consumer Federation of America, National Farmers Organization, National Audubon Society, Sierra Club, and American Association of Retired Persons to a variety of regional and state organizations.

S. 1220 would extend the tax credits for all the renewable energy technologies on a technology-by-technology basis over several years, substantially reducing costs from the current legislation through a variety of phasedowns and other measures.

S. 1220 also includes extension of the residential energy conservation tax credit. This credit, which is claimed by 3 million families annually, helps them improve the energy efficiency of their homes by encouraging them to install insulation, storm windows, furnace improvements, and other energy-saving measures. Energy conservation is the least-cost energy source available; cumulative energy efficiency improvements already satisfy 23% of our energy needs and could supply significantly more. Conservation is particularly helpful in the residential sector where most housing was built long before the higher standards of the post-embargo period. The credits are especially popular in the states with colder weather and older housing in need of energy conservation improvements. More important, the energy conservation credit is used most by those in greatest need; according to the IRS, half the claimants earn $30,000 annually or less. S. 1220 would increase the energy savings from the credit while lowering the cost the federal Treasury. H.R. 2001 would impose a $30,000 annual income ceiling on the conservation credit and lower the total allowable credit from $300 to $175. The Northeast-Midwest Institute has estimated that these and other proposed reforms will save $200 million over the life of the extension from current law while saving 50% more energy.

Mr. Chairman, S. 1220 provides the scheduling concept for the phaseout of tax credits for renewable energy and conservation. We suggest a similar and equitable phaseout for the other energy technologies.

Seven years ago, the United States made a significant investment in the renewable energy technologies. There were problems getting off the ground with consumer education, faults in some of the new technologies, reluctance from the financial community, and an effort on the part of the Administration to rescind tax credits in 1981. It took a Supreme Court decision in 1983 to open the market to independent electric power producers.

Despite these hurdles, the accomplishments have been most impressive. We now have major advances in a wide range of solar systems. After only four years of major development, wind machines are rapidly becoming one of the least-cost methods of producing electricity in some parts of the country. The United States has the second biggest fuel ethanol industry in the world, an industry that is paving the way for other fuel alternatives. The wood fuel industry has passed through a revolutionary stage to where it now leads oil, gas, and coal as a preferred fuel in certain sections of the country. New advances in hydropower now permit small units to blend into a number of rivers and streams with minimal environmental disturbances. Geothermal and groundwater heating and cooling systems are becoming increasingly routine; and ocean thermal technology holds real promise for the future.

Mr. Chairman, these technologies are becoming an increasingly important part of America's energy mix. In many areas, we lead the world. This is not the time to abandon our commitment to a renewable and sustainable energy future. Thank you for your consideration.

ORGANIZATIONS ENDORSING H.R. 2001/ S. 1220

NATIONAL ORGANIZATIONS

American Agriculture Movement (David Senter)

American Association of Retired Persons (AARP) (David Certner)

American Solar Energy Association (Susan Burby)

American Wind Energy Association (Tom Gray)

Americans for Indian Opportunity (LaDonna Harris)

Bio-Energy Council (Paul Benke)

Citizen/Labor Energy Coalition (Robert Brandon)

Citizens' Energy Project (Ken Bossong)

Consumer Federation of America (Steve Brobeck)

Environmental Action (Ruth Caplan)

Environmental Policy Institute (Norris McDonald)

Environmentalists for Full Employment (Richard Grossman)

Friends of the Earth (Geoff Webb)

Fund for Secure Energy (Tom Kinder)

Independent Energy Producers' Association (Jan Hamrin)

Industrial Fabrics Association International (Marcia Thomson)

Infinite Energy (Rebecca Vories)

Institute for Local Self-Reliance (David Morris)

Izaak Walton League of America (Maitland Sharpe)

Jobs in Energy (Margaret Morgan Hubbard)

National Association of Retired Federal Employees (Edward Chodos)

National Association of Solar Contractors (John Woyke)

National Audubon Society (Dr. Jan Beyea)

National Conference of State Legislatures (Sharon Waxman)

National Center for Appropriate Technology (Peggy Wheeler)

National Farmers Organization (DeVon Woodland)

National Hydropower Association (Lee Goodwin)

National Parks & Conservation Association (Destry Jarvis)

National Wood Energy Association (David Keenan)

Natural Resources Defense Council (Laura King)

NETWORK, a Catholic Social Justice Lobby (Nancy Sylvester, IHM)

Nuclear Information Resource Service (Janet Lowenthal)

Organizing Media Project (Chris Bedford)

Pax Christi (Sister Mary Lou Kownacki)

Public Citizen (Paul Markowitz)

Renewable Fuels Association (Eric Vaughn)

Rural Coalition (Lawrence Parachini)

(Continued)

Sheet Metal & Air Conditioning
Contractors National Association
(SMACNA) (Stan Colby)

Sheet Metal Workers International
Association (Ralph Willham)

Sierra Club (Brooks Yeager).

Solar Energy Industries Association
(Scott Sklar)

Solar Lobby (Tina Hobson)

SolarVision, Inc. (Bruce Anderson)

Union of Concerned Scientists
(James MacKenzie)

REGIONAL/STATE/LOCAL ORGANIZATIONS

Aiken Environmental Coalition, SC
(Ronald H. Heaton)

Alliance of Minnesota Energy Industries
(Steven Dess)

Alternative Energy Resources
Organization (AERO) (Al Kurki)

Appalachia Science in the Public
Interest (Albert Fritsch)

Bethel New Life, Chicago
(Luther Snow)

Campaign for a Prosperous Georgia
(Tim Johnson)

Catholic Rural Life Coalition of Iowa

Center for Neighborhood Technology,
Chicago (Scott Bernstein)

Citizens' Action Council of Indiana
(Janelle Cousino)

Citizen's Health Committee, CO
(Susan Franta)

Citizens' Utility Board, WI
(Kathleen F. O'Reilly)

Coalition for a Grass Roots Shelter, MI
(Lewis Okun)

Colorado State University Solar Energy
Applications Laboratory
(Karen Den Braven)

Como Energy Project, St. Paul
(J. Barry Eliason)

Conservation Council of North Carolina
(John Runkle)

Energy Association of New Hampshire
(Thomas E. Minnon)

Environmental Action Resource Service,
Colorado (Lana Thomas and Steve
Wachterman)

Florida Appropriate Technology, Big
Bend League of Conservation Voters,
Apalachee Recycling Center, and
Community Action Committee of United
Church in Tallahassee, FL
(Bernard Windham)

Georgia Solar Coalition
(Jeffrey S. Tiller)

Illinois Alcohol Fuel Association
(Lloyd Reesor)

Illinois Safe Energy Alliance
(Dr. Rachelle Zalman)

Illinois Solar Energy Association
(Mark Elmore)

Institute for Alternative Agriculture
(Dr. Garth Youngbird)

Iowa American Agriculture Movement

Iowa Citizen Action Network
(Mike Lux)

Iowa Citizens for Community Improvement
(Carol Kress)

(Continued)

Iowa Farmers Union
(Pete Groghan)

Iowa Farm Unity Coalition

Iowa National Farmers Organization
(Richard Steffen)

Iowa U.S. Farmers

Iowa UAW CAP Council

Interfaith Agency for Peace & Justice,
Iowa

Jamestown Audubon Society, NY
(Rose Mary Wilcox)

Jordan Energy Institute
(Niels Anderson)

Lander Energy Conservation Council
(Roger Potratz)

Louisiana Solar Design Association
(Dr. Jason C. Shih)

Maine Audubon Society
(Christine T. Donovan)

Maine Solar Energy Association
(Sandra Dickson)

Michigan Solar Energy Association
(Fred Geraw)

Minnesota Solar Energy Association
(Mark Lautgeb)

Minnesota Solar Industries Guild
(Karin Wilson)

Minnesota Wind Energy Association
(Paul Jacobs)

Montana Wind Energy Association
(Joe Farrell)

New England Solar Energy Association
(Larry Sherwood)

New Mexico Solar Energy Industries
Association (Matthew Baca)

New York Metropolitan Solar Energy
Society (Jon Naar)

Northwest Rivers Alliance
(Mark Palmer)

Oklahoma Solar Energy Industries
Association (Ward Slager)

Pennsylvania Solar Energy Council
(Leslie Jacobson)

The PV Network News, Solar Works
(A.D. Paul Wilkins)

Rhode Island Solar Energy Association
(Domenic Bucci)

Sand County Audubon Chapter
(Mary A. Rather)

Sierra Club—Rocky Mountain Chapter
(Kirkwood Cunningham)

Sierra Club--Blue Ridge Group, NC
(Fess Green)

Solar Energy Association of Oregon
(Phil Barnett)

Solar Oregon Lobby
(Fred Heutte)

Texas Renewable Energy Industries
Association (Curtis O. Higgs)

USU Forestry Club
(Jeff Mecham)

Utah Solar Advocates
(Scott Gutting)

Utah Council of Independent Power
Producers (Colin Jackson)

West Michigan Environmental Action
Council (Mary Louise Steketee)

Wisconsin's Environmental Decade
(Peter Anderson)

Woodlands Institute
(Michael Meador)

JOINT STATEMENT ON ADMINISTRATION TAX PLAN

U.S. Capitol, Washington, D.C.
May 30, 1985

Today we join together on behalf of 10 national environmental and consumer organizations in a united appeal to reform our nation's energy tax policy to create a "level playing field" for all energy investments. While Treasury Two is a clear improvement over the status quo, it is a significant retreat from Treasury One, which moved toward a level playing field by removing all tax subsidies for energy. Unfortunately, the Administration's new plan falls far short of this goal.

Oil companies and other nonrenewable energy industries have had major tax privileges restored under Treasury Two, while renewables and energy conservation have lost their most significant tax benefits. This is unfair and unwise. It jeopardizes our most cost-effective means to energy security and it hurts the very kind of entrepreneurs whom the President has rhetorically praised--the small businesses that are developing innovative renewable energy technologies.

Our nation now spends more than $27 billion annually on tax breaks to the energy industries. Almost all of these expenditures are for oil, gas, coal and nuclear, giving these nonrenewable resources a great competitive advantage over energy efficiency and renewable energy resources. Current tax policy is promoting a short-term solution to a long-term problem, without even accounting for the environmental and consumer costs of pursuing this path.

While Treasury One would have eliminated all depreciation benefits, Treasury Two would be even more generous to electric utilities than existing depreciation provisions. By contrast, renewable energy facilities would lose half their depreciation benefits, in addition to losing the renewable tax credit.

In the interest of a fair and affordable energy policy, we have no choice but to stand solidly behind extension of the tax credits for energy conservation and renewables. Legislation introduced in Congress has been structured to phase out the renewable energy and conservation credits on a technology-by-technology basis over three to five years. The renewable energy industry is prepared to adjust its research and development plans and its marketing strategies to accommodate this schedule. We strongly support this approach, which has been incorporated into H.R. 2001, sponsored by Rep. Cec Heftel and more than one hundred colleagues, and S. 1220, just introduced by Senator Mark Hatfield. These bills have been endorsed by one hundred renewable energy, environmental and public interest organizations.

Under Treasury Two, the percentage depletion allowance for oil and gas is also being phased out over five years for most wells. We call on Congress and the Administration to establish an equitable phaseout of all federal energy tax subsidies. At the very least renewable and conservation credits should be phased out on the same schedule as benefits for oil and gas.

(continued)

Currently renewable energy sources supply almost 10 percent of U.S. energy and could easily supply more than 20 percent by the year 2000 if not impeded by government obstacles such as tax inequities. Similarly, cumulative energy efficiency improvements already supply 23% of our energy needs and could supply significantly more. Without a level playing field, special tax incentives are an essential ingredient for achieving these potentials.

Energy consumption and the volume of oil imports are again on the rise, worsening a monetary hemorrhage that is a major contributor to the federal deficit. The United States has expended about $500 billion for imported energy over the past decade and more than $52 billion in 1984 alone. Energy independence, called for by the President, cannot be realized if we rely so heavily on domestic oil production. Our nation has less known conventional oil with each passing day. We need incentives to use less oil, not to drill the oil we have at faster rates. Treasury Two takes us in the wrong direction, by encouraging drilling and discouraging conservation and renewables.

In addition, by restoring tax breaks for utilities to build new power plants and cutting benefits for conservation and renewables, Treasury Two would create a situation that would lead to large tax expenditures for new power plants in the future. The energy scenario projected by the Department of Energy would entail capital investments of $1 trillion in 1982 dollars and would cost around $167 billion in federal tax expenditures under Treasury Two.

Only by allowing the marketplace to determine energy investments will the United States achieve cost-effective energy security and a strong economy. We call upon the Administration and Congress to adopt an equitable and fair energy policy by phasing out all energy subsidies across the board and supporting the phaseout model in H.R. 2001 and S. 1220.

Citizen/Labor Energy Coalition

Consumer Federation of America

Environmental Action

Environmental Policy Institute

Friends of the Earth

National Audubon Society

Natural Resources Defense Council

Public Citizen

Sierra Club

Solar Lobby

STATEMENT OF TEXACO INC.
SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION
June 21, 1985

Texaco appreciates the opportunity to provide its comments to the Subcommittee and to review a number of serious national policy issues presented by the impact that tax law has on the implementation of domestic energy policy and national security and by the sharp increase in petroleum product imports into the United States combined with the accelerating decline in U.S. domestic refining capacity. The growing dependence by the U.S. on petroleum product imports raises concern in the areas of trade and economic policy, energy policy and national security. This Subcommittee's responsibility with respect to energy taxation makes these hearings timely and appropriate.

SIGNIFICANT TRENDS

Tax Reform

Press reports on President Reagan's Tax Reform Proposal often decry the President's decision for reasons of national security to retain incentives for oil and gas exploration. One thing these reports fail to point out is that the petroleum industry is already highly taxed. The November 28, 1984 study by the Joint Committee Staff shows that the petroleum industry's rate of income tax payments for 1980-83 was 28% higher than the average of other industries. Also taking into account the so-called Windfall Profit Tax which is aimed only at oil and gas production, the tax rate on petroleum was the highest of the 30 major industries studied.

The press reports also imply that the national security consideration is not real. However, earlier this year the Interstate Oil Compact Commission, an organization of 30 state governments which have oil and gas production, commissioned a study of the effect of revoking the deduction for intangible expenses incurred in drilling oil and gas wells. These are expenditures that don't have any salvage value, such as amounts paid for labor, fuel, repairs and equipment hauling. The Commission projects the number of wells drilled would be reduced by over 200,000 from that expected during the period 1986 through 1991, with the consequence that oil production would be reduced in 1991 by over 1.5 million barrels of oil equivalent per day. This is more than twice the shortfall we suffered during the 1979 energy crisis.

The Interstate Oil Compact Commission also studied the effect of the repeal of the provision allowing expensing of tertiary injectants. Tertiary, or as it is sometimes called enhanced, recovery permits the removal of additional oil which would not otherwise be recovered from known reservoirs through the use of chemical injectants such as carbon dioxide. The composite effect of the Treasury Department's November 1984 Tax Reform Proposals regarding cost recovery, intangible costs and the repeal of tertiary injectant costs projected by the Commission on tertiary production would be a decrease in recoverable, but already discovered, oil reserves of some 1.8 billion barrels. This is approximately four times the volume of the strategic petroleum reserve, which on January 1, 1985 contained only 450 million barrels.

In addition, the press reports don't bother to mention that the President's plan would leave the petroleum industry saddled with the so-called Windfall Profit Tax (the U.S. Treasury Department's Tax Reform Proposal of last November would have phased it out). Despite its name, this is an excise tax imposed on oil and gas production. It even applies to oil that hasn't been discovered yet, so there can't possibly be any windfall on it. For major companies, it also applies to "stripper" wells, or marginal wells producing 10 barrels a day or less. The tax itself can mean the difference between whether a well or field is economic to produce or should be abandoned. For reasons of national security if not fairness, one of the President's announced goals, this tax ought to be repealed immediately.

The press reports also fail to point out that the petroleum industry will be affected by the President's proposals which affect all business. Overall, despite a reduction in the corporate income tax rate, the President plans to raise corporate taxes by $25 billion annually, a 29% increase, principally by eliminating the investment tax credit for equipment and changing tax depreciation. On June 18 Martin Feldstein, Harvard Professor of Economics and President Reagan's former Chairman of the Council of Economic Advisers, argued before the Senate Finance Committee that the investment tax credit and favorable depreciation treatment for new equipment should be maintained; otherwise, capital will be diverted into buildings and other types of investment rather than the productivity-increasing equipment needed to remain competitive in world markets.

The press reports also generally overlook the fact that a $57 billion revenue shortfall in the President's proposal was made up by recapturing favorable tax depreciation benefits enacted in 1981 at President Reagan's request. As Professor Feldstein testified, "There is simply no justification for retroactively reducing the value of depreciation taken during the past five years. Such a retroactive change in depreciation rules would make businesses justifiably suspicious about the value of future depreciation benefits. And if businesses cannot rely on the government to give the full value of promised depreciation, the incentive to invest will be substantially reduced."

Both the abolition of the investment tax credit/accelerated cost recovery and the recapture of past cost recovery deductions will have an adverse impact on the cash flow of the petroleum industry and its ability to finance new investment. In addition, the abolition of the investment tax credit/accelerated cost recovery can make the difference on whether an investment project is economically viable. To the extent such projects are in the exploration and producing area, the resulting loss of production will have adverse national security implications. To the extent such projects are needed to maintain the competitiveness of existing domestic refineries, progressively more of our domestic consumption of petroleum products will be satisfied by foreign refineries--again with adverse national security implications.

Texaco supports real tax reform to achieve fairness and growth, without sacrificing national security. However, substantial modifications will have to be made in the President's proposal to achieve these objectives and to provide the necessary incentives to help keep the domestic petroleum industry competitive against the rising tide of petroleum product imports.

Product Imports/Refinery Capacity

Volumetric Growth in Product Imports

In 1984 gasoline imports into the U.S. averaged over 309,000 barrels per day (BPD), an increase of 38% over 1983. This increased to 379,000 BPD in the first quarter 1985, an increase of 33% over the 285,000 BPD level in the first quarter of 1984. Middle distillate imports, such as diesel fuel, heating oil and jet fuel, averaged 255,000 BPD, an increase of 70% over 1983 levels. These amounts are much greater when partially refined product imports such as naphtha and blending stocks are included. Charts 1, 2 and 3 further detail the increasing trend in U.S. petroleum product imports.

Domestic Refiner Margin Squeeze

Gasoline imports in the 1960's and 1970's supplied 1 to 2% of U.S. demand but have risen to as much as 8% of total U.S. demand when blending stocks used in marketing gasoline are included. Analysis of current trends indicates a continued upward movement in product import dependence in 1985 and beyond. Gasoline imports are primarily directed at the U.S. East Coast where they now approach 15% of demand when imported blending stocks are included. In 1984, imports supplied 15% of all regional light product demand in PADD I.

The increasing flood of product imports has exerted significant downward pressure on refiner margins in the U.S. For the first quarter 1985 a number of the majors experienced continued losses or reduction in earnings in the downstream sectors (See Chart 4). In today's highly competitive marketplace, it is the price of the last barrel seeking to enter the market which can determine the overall level of prices.

There is increasing evidence that foreign export refiners seeking access to U.S. markets and the displacement of domestic refined products are offering to sell gasoline, middle distillates and heavy fuel oil at prices sharply below any reasonable estimate of refinery costs. This cost/price relationship is set forth on Charts 5 and 6. Cost absorption of over $3 per barrel by government-owned export refiners appears to be occurring, representing as much as 7¼¢ per gallon. In an attempt to compete against foreign competition which analysis indicates is engaged in sales below cost, domestic refineries are experiencing depressed margins and large losses in widespread instances. These margins would be further reduced if the "recapture" windfall tax on old investment contained in the President's tax reform proposal is adopted.

Decreasing U.S. Refining Capacity

Competitive market conditions since decontrol in 1981 have led to an extensive rationalization and contraction of the U.S. refining industry. In 1981, there were 315 operating refineries in the U.S. with a total capacity of 18.6 million barrels per day (MMBPD). By the beginning of 1985, the U.S. had less than 200 operating refineries, with slightly under 15.4 MMBPD of operable capacity, according to the Energy Information Agency. Operable capacity is defined as capacity that is now operating plus idle capacity that could be returned to service within 90 days. There is a significant amount of reported operable capacity which has been shut down since the first of the year or has been idle for such an extended period that a serious question exists whether it could ever be operated again without great expenditures and within any reasonable period of time.

Some reduction in U.S. refining capacity has been required to remove the inefficient facilities constructed during the period of Government controls in the 1970's which artificially stimulated demand and encouraged the construction of small inefficient refineries. Today, however, the U.S. is rapidly approaching the point where future plant closings will involve modern, efficient facilities which simply cannot competitively survive against below-cost, subsidized sales by foreign government export refiners seeking access to U.S. markets. The future configuration of the U.S. domestic refining industry over the next several years may well be largely determined by the policies of foreign governments.

Declining U.S. Crude Prices

Faced with mounting losses, U.S. refiners have reduced the price paid to U.S. producers for domestic crude. The declining trend in U.S. crude prices and the resulting reduction in producer cash flows has led to a sharp reduction in U.S. exploration and drilling activity. Unless these trends are reversed, the U.S. must anticipate higher levels of crude imports in the years ahead which, when combined with the increasing level of product imports, could push the U.S. in a few years to a level of 50% import dependence, a level which the experience of the 1970's demonstrates is an unacceptable dependence on foreign sources.

Construction of New OPEC Export Refining Capacity

In the face of significant excess refining capacity today in major consuming countries, an estimated 2.25 MMBPD of new refining capacity is nevertheless planned or under construction in several OPEC countries and will come on stream in the next several years. One million BPD of this new export capacity will be on stream by the end of 1985. Their strategic objective will be to gain access to consumer markets, including the U.S. The locations of these export refineries in the Middle East and North Africa, as shown on Chart 7, representing 1.4 MMBPD of capacity, are in areas which were the source of crude supply disruptions in the 1970's.

Other exporters of product to the U.S. in recent years include Romania and China. In addition, Russia, at various times, exports large volumes of petroleum products into Europe creating surplus product which, by displacement, often moves to the U.S. Dependence on these areas as an important source of energy supply for the U.S. and Europe can create additional foreign policy and defense costs.

A list of the leading countries currently exporting petroleum products into the U.S. is shown on Chart 8.

Impact of Environmental Investments

During the last ten years, the domestic refining industry has expended over $30 billion for environmental facilities to meet mandated product specifications and to control plant emissions. Additional Superfund taxes and other hazardous substance regulations which are pending will significantly increase the environmental costs of U.S. refineries. A study by Batelle Columbus Laboratories indicates that U.S. refiners incur mandated environmental costs of as much as $1.50 per barrel over foreign export refineries.

Our own U.S. Government is currently providing incentive subsidies favoring petroleum product imports. EPA has granted lead banking credits worth as much as 4.5¢ per gallon to importers of low lead gasoline. EPA recognized that many domestic refiners currently lack the equipment to produce lead-free, higher-octane fuels in accord with its lead phasedown timetable. Therefore, it adopted lead banking provisions for products with lead levels below current standards during the transitional period while domestic refiners install the necessary equipment. Most importers, however are brokers, blenders, and middlemen not engaged in refining who now enjoy a windfall from the banking provisions of up to 4.5¢ per gallon. This permits them to put even greater pressure in the market place on the already depressed margin and cash flow of the domestic refiner--a result contrary to the stated objectives of EPA's lead banking program. This is one more example of the failure of the U.S. Government to have a clearly defined view and policy with respect to the type of domestic refining industry required by our national interests.

Outlook

OPEC crude oil producers in today's market often experience difficulty in selling their available crude at official government prices. Sales discounted from official prices threaten the overall crude price structure. In these circumstances, government operated refineries and processing arrangements provide a convenient basis to veil the discounting of crude prices. In addition, such refineries may also provide an opportunity to realize additional petroleum revenues from exports over and above the sales volumes permitted under the OPEC established crude oil quotas set for member countries. For these reasons OPEC export refineries can be expected to continue to operate at high levels and be expanded. Such refineries are also an important source of local employment and therefore have additional political significance.

The desirability of the hard currency available to foreign exporters from the sale of petroleum products into U.S. markets further suggests that the trend in increased U.S. product imports will continue and perhaps even accelerate. Crude oil and raw material costs represent the largest single component of a refiner's cost (over 80%). There is no way through reduced operating expenses or increased productivity that U.S. refiners can compete against raw material and other subsidies over $3 a barrel.

There exists the potential that growing U.S. import dependence, combined with a shrinking U.S. refining base, will permit establishment of a new "seller's" market in the years ahead. Domestic sales below cost to achieve market dominance are, of course, outlawed under U.S. antitrust laws. It would be ironic if the U.S. were to permit foreign governments to achieve what U.S. policy has prohibited on the part of private domestic firms.

The prospect of increased access to U.S. markets by foreign product exporters is further enhanced by comparatively low import duties and the absence of quotas or other restraints. U.S. petroleum product import duties on gasoline are only 1.25¢ per gallon and were set in 1947 when the wholesale price of gasoline was approximately 10¢ per gallon. These duties have never been increased to reflect price increases and other changed economic relationships since the mid-1940's. Such duty levels could be increased 7-10 times their present levels solely on the basis of changed economic and market conditions since the time they were first imposed. U.S. import duties on petrochemicals average 8 to 10 times higher than petroleum products at present. European product import duties currently are as much as 4 times higher than the U.S. and Japan refuses to admit foreign refined gasoline to enter the country.

Confronted with; 1) mounting losses, 2) increased environmental investments and taxes, 3) the loss of the capital investment incentives provided under current tax laws, 4) imposition of a "recapture" windfall tax on old investment and, 5) continued competition from sales below cost, U.S. refiners will continue to shut down facilities. There may exist an apparent surplus of operable domestic refining capacity as compared to current average daily runs of approximately 12 MMBPD. It is not at all clear, however, that maintenance of the idle units included in the classification of "operable" capacity has been adequate to permit a rapid increase in current crude running in the event of a supply disruption. Moreover, some surplus in refining capacity is required to compensate for the periods when units must be shut down for testing and inspection. Historically, operating at 90% of capacity is about the optimum the industry can hope to achieve. In addition, as much as 3 MMBPD of capacity will be required to run crude oil from the Strategic Petroleum Reserve in the event of a supply disruption. When these factors are taken into consideration, the existing cushion of surplus refining capacity in the U.S. is not very large and may already have reached the level where any further reduction would be contrary to the national interest.

Foreign refineries during a period of worldwide crude disruption may not have crude supplies above their domestic requirements to provide a basis for refining products for export. Moreover the prices demanded for such products will undoubtedly reflect the escalated levels which experience in the 1970's indicates will occur following a supply disruption. The question of how much excess U.S. refining capacity the U.S. requires is complex and not at all clear. What is clear, however, is that once a plant or major unit has been shut down for any extended period of time, it is most unlikely that the equipment would be in a condition to resume full operations in any short period.

Mothballing Refining Equipment

Our review of the requirements for the protection and start-up of idle petroleum refining equipment indicates a significant amount of expense, maintenance and testing is involved to start up an idle plant. Even with adequate mothballing, internal and external corrosion will be experienced. This corrosion damage and cost to repair or replace equipment removed for use in other facilities increases significantly with time. Other problems encountered when restarting an idle refinery concern recruiting and training a workforce, developing contracts, purchasing catalyst and chemicals and reinstating elapsed environmental permits. This is time consuming and expensive. A minimum of four months is required to restart a refinery idle one year and as much as eight months when idle in excess of two years, excluding any delays resulting from permits, availability of utilities and delivery of critical catalyst and chemicals. Mothballed facilities would provide little assistance in dealing with the type of supply disruption experienced in 1973-74 and 1979.

PROMPT NATIONAL POLICY REVIEW REQUIRED

There is a strong indication that, absent a shift in national policy, the U.S. will continue to drift into a growing and excessive dependence on foreign product imports. Overall, imports of crude and product into the U.S. increased by 8% in 1984, the first increase following several years of decline. The painful U.S. experience with excessive dependence on foreign imports in the 1970's dictates that a policy review should be immediately undertaken by responsible officials to determine at what level increased crude and product imports cease to be prudent from the standpoint of economic policy, energy policy and national security. The short-term consumer benefits available from product sales below cost will be more than offset by the longer-term price increases which will occur from excessive import dependence in the event of a future supply disruption or the reestablishment by OPEC of a seller's market. How much longer can existing levels of domestic refining capacity be maintained under the severe margin squeeze and mounting losses resulting from competitive prices apparently based on sales below cost?

A number of economic issues should be included in the policy review. Key areas of the economy will be adversely affected if increasing levels of petroleum imports lead to the reestablishment of a seller's cartel or are cut-off by a supply disruption. These include GNP growth, employment, inflation, interest rates, balance of payments and federal budget deficits.

The policy review should also include an evaluation of current U.S. trade policy in the energy sector together with an appraisal of the practicality of existing enforcement mechanisms to deal with a natural resource subsidy form of unfair trade practice. U.S. Customs procedures relating to the administration and interpretation of existing duties on finished products and blendstocks should also be reviewed. Wide discrepancies and inequities currently exist and are more fully described in Chart 9. Consideration should also be given to the justification and utility of maintaining a Strategic Petroleum Reserve (SPR) at an annual cost in excess of $4 billion if adequate refining capacity is not available to process crude from the SPR during a period of supply disruption.

Finally, there is the area of national security. Whether an imminent national security concern is created at present levels of crude and product imports is a matter upon which differing views have been expressed. In recent Congressional hearings the Department of Defense (DOD) testified its petroleum product requirements would increase four-fold to approximately 2 million barrels per day in the event of a major military mobilization. Moreover, many of the refineries operated by U.S. companies outside the U.S. which were suppliers to DOD in prior years have more recently been closed or sold to foreign governments. These developments place a greater dependence on our domestic refining base.

Those expressing complacency at current levels should be queried as to what point in the future, on the basis of existing trends, our dependence on foreign imports would reach a point where a genuine national security concern exists. What is the criteria policymakers should employ in making such a judgment and what industry operational lead times must be accommodated for any remedial action to be timely implemented? Attached is a white paper which suggests certain criteria to be used in addressing these issues.

The timing and form of any remedial measures required to protect U.S. interests in this vital area should be determined by the judgments made in the comprehensive policy referred to above in formulating U.S. policy in these key areas. If analysis indicates the current level of domestic refining capacity should not be permitted to further erode, strong action at an early date would be required.

A listing of some of the more critical issues and questions Texaco believes should be addressed is set forth below. Responsibility for the analysis and resolution of these economic, trade, energy policy and national security issues appears to lie in many different departments, agencies, and committees in both the Executive and Legislative branches of the U.S. Government. Leadership and coordination will be required to ensure that such divided responsibility does not result in the failure of any party to accept responsibility for these difficult and complex matters which vitally affect the national interest.

In the past there has been a tendency to deal with politically difficult problems of this nature only in a crisis. Unfortunately, our Country's inability to address and resolve such problems in advance of a crisis cost the U.S. economy in the 1970's billions of dollars in addition to a loss of policy flexibility and significant additional costs in the areas of both foreign policy and defense.

In the absence of any indication of a policy shift by the U.S. Government, it is reasonable to anticipate that privately owned U.S. refiners will continue the established pattern of plant closings required by the severe margin squeeze and mounting downstream losses. During the 1970's the petroleum industry was widely criticized for failing to warn the public that the U.S. was losing its energy self-sufficiency and the risks associated with a growing import dependence. Texaco believes that current trends and developments in the energy sector contain the potential for a future shortage which could compromise our economic and national security to a greater extent than in the 1970's. We compliment this Subcommittee for holding these hearings to focus public attention on these critical issues. There is urgent need for the policy analysis studies currently underway within the Administration to be promptly concluded in order to permit timely informed judgments to be made.

POLICY ISSUES AND QUESTIONS TO BE ADDRESSED

I. Economic Policy

1. What would be the intermediate and longer term impact in the following key areas of the economy if increasing volumes of subsidized petroleum product imports produce a continuing pattern of refinery closings combined with a reduced level of domestic exploration and oilfield services activity:

    a. GNP growth
    b. employment

2. What will be the impact in the following key areas of the U.S. economy if excessive dependence on petroleum imports leads to the reestablishment of an effective seller's cartel with significant upward movement in energy prices:

    a. GNP growth
    b. inflation
    c. interest rates
    d. balance of payments
    e. federal budget deficits

3. What impact on the following key areas of the economy would result from a supply disruption if combined crude and product imports are permitted to reach a level of 50% of U.S. demand:

    a. GNP growth
    b. inflation
    c. interest rates
    d. balance of payments
    e. federal budget deficits

II. Trade Policy

1. As a matter of national policy, should we expect our domestic refinery industry to compete against sales of imported products by producer governments which evidence strongly indicates are below cost? Are there any other major U.S. industries which national policy would place in such a position to obtain short-term consumer benefits?

2. Would below cost sales by foreign competitors differ from the practice of predatory prices outlawed by the U.S. antitrust laws?

3. What is the justification for the level of U.S. import tariffs on gasoline and other petroleum product not being revised since 1947 to reflect current economic relationships?

4. What is the justification for the average import duty level on petrochemicals being at least 8 to 10 times higher than petroleum products?

5. What is the justification for European import tariff levels on petroleum products from many sources being as much as four times higher than the U.S.?

6. Why should the U.S. have a completely open door for petroleum product imports when Japan drastically limits the levels of foreign refined products permitted access to its domestic market?

7. Are existing trade laws and procedures adequate to deal with the new phenomenon of below cost sales of petroleum products to gain access to U.S. market?

III. Energy Policy/National Security

1. What is the minimum level of domestic refining capacity required to protect against future economic shocks from the reestablishment of an effective sellers' cartel and insure our national security in the event of a supply disruption?

2. Does an analysis of present trends in petroleum product imports and refinery closures indicate the U.S. may be approaching such minimum level? What are the industry operational lead times that must be taken into consideration in adopting remedial policy?

3. Should the configuration of the U.S. refinery industry be determined by the self-interest policies of foreign governments?

4. What amount of excess refining capacity in the U.S. is required to obtain optimum benefits from the $15 billion investment in the SPR?

5. As a matter of energy policy, is the U.S. satisfied with current levels of domestic drilling and reserve additions? Is there a relationship between depressed refinery margins and the prices paid to U.S. producers for U.S. crude oil? Is reduced cash flow to domestic oil and gas producers a major reason for the dramatic decline in U.S. exploration?

6. What are the odds that at some point in the next 10 years there will be another major energy supply disruption? Is a complacency over current product import trends consistent with this assessment?

7. What incremental demand for petroleum products will occur in the event of a major military deployment, i.e., military requirements, tank-topping by consumers fearing shortages, additional domestic industrial activity required to support military operations?

8. How reliable suppliers of petroleum products are Romania, Russia (into Europe and by displacement into the U.S.), Libya and China?

9. How reliable a product supplier would Canada, Mexico, Venezuela and other Western Hemisphere countries be in the event of a major supply disruption which threatened their domestic requirements? Would the price levels of their products be expected to escalate in the event of a supply disruption?

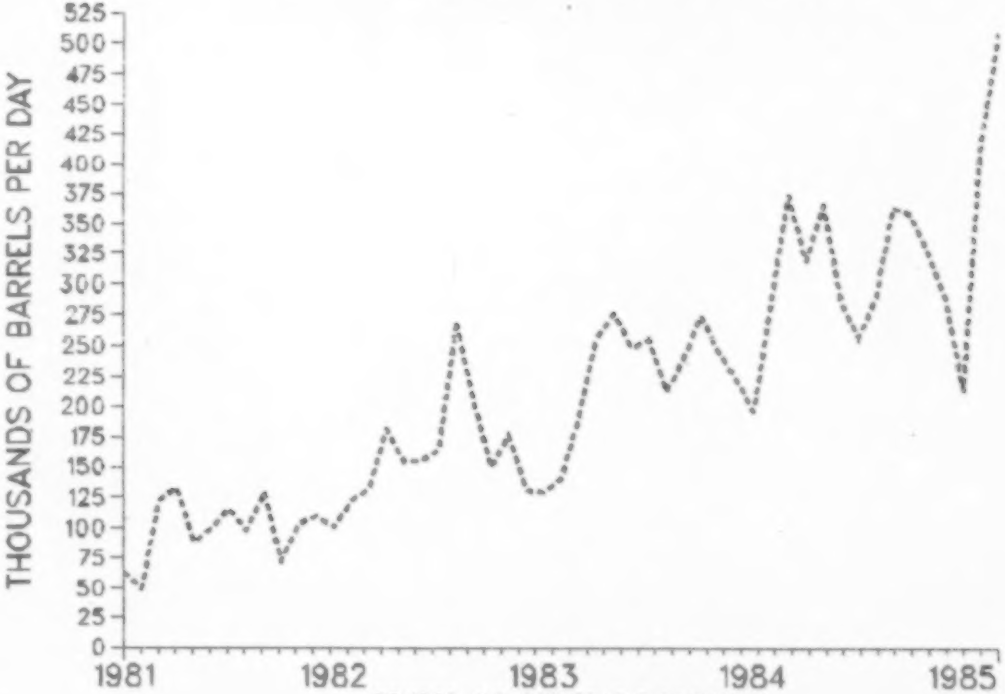
10. What are the additional military costs associated with insuring U.S. access to foreign crude supply, including the cost of keeping the sea lanes open and protecting against tanker attacks? When these military costs are added to the market price of imported products, are such products less costly to U.S. consumer than domestic products?

11. What limits on the flexibility and substance in U.S. foreign policy are created by excessive dependence on foreign energy sources?

CHART 1

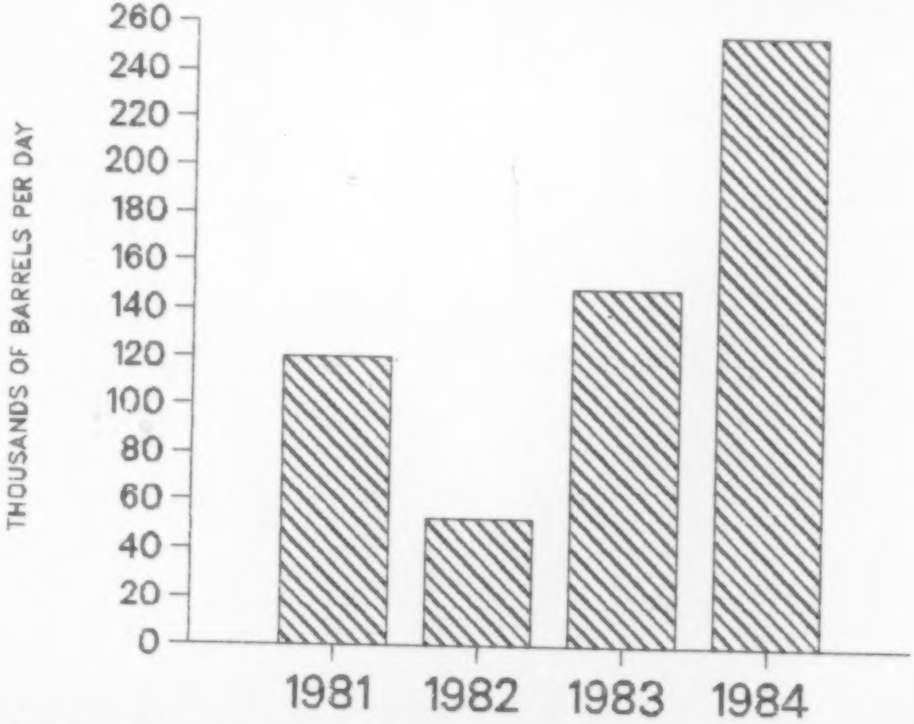
U. S. GASOLINE IMPORTS

EXCLUDES SHIPMENTS FROM P.R. & V.I.



SOURCE: U.S. DEPARTMENT OF ENERGY

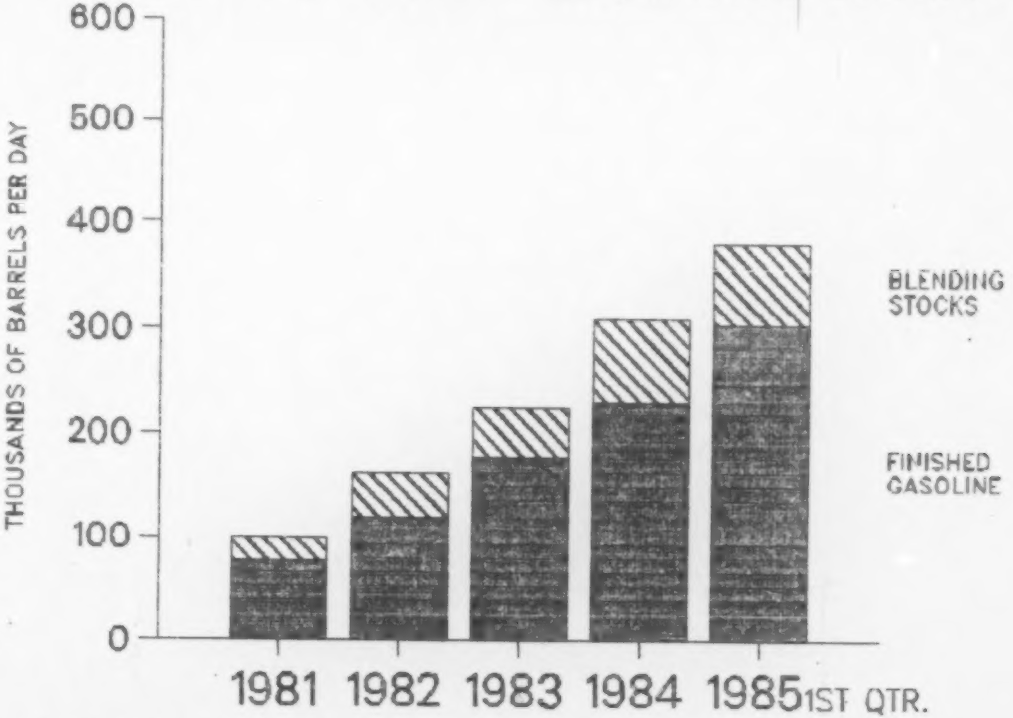
U.S. IMPORTS OF MIDDLE DISTILLATES*



*EXCLUDES SHIPMENTS FROM PUERTO RICO & VIRGIN ISLANDS

CHART 3

U.S. IMPORTS OF FINISHED GASOLINE AND BLENDING STOCKS*



*EXCLUDES SHIPMENTS FROM PUERTO RICO & VIRGIN ISLANDS

CHART 14

ALL SIX OF LARGEST US OIL FIRMS REPORT LOWER FIRST-QUARTER PROFITS

US oil company earnings declined across the board in first quarter 1985, but gloomy results were tempered by a better showing in March. The profits picture for six major US oil firms suffered by comparison with a year earlier, when economic growth was taking hold and a colder winter improved product sales. Profits were undermined by continued price uncertainty and slowing economic growth, while the strong dollar put pressure on overseas refining and marketing margins (PIW Feb. 11, p 7).

First-quarter comparisons with year earlier results are obscured for Chevron, Mobil and Texaco because of mergers and acquisitions, since the companies didn't restate 1984 figures (see footnote to table).

Amoco had a 20% drop, while Texaco had a small 0.3% decline thanks to its $134-million gain from sale of some Texaco Canada shares. Exxon's 10.2% net income falloff stems primarily from a poor refining and marketing performance as well as a 34% drop in chemical earnings. Exxon, Amoco and Arco attribute their earning declines in part to stock repurchase programs.

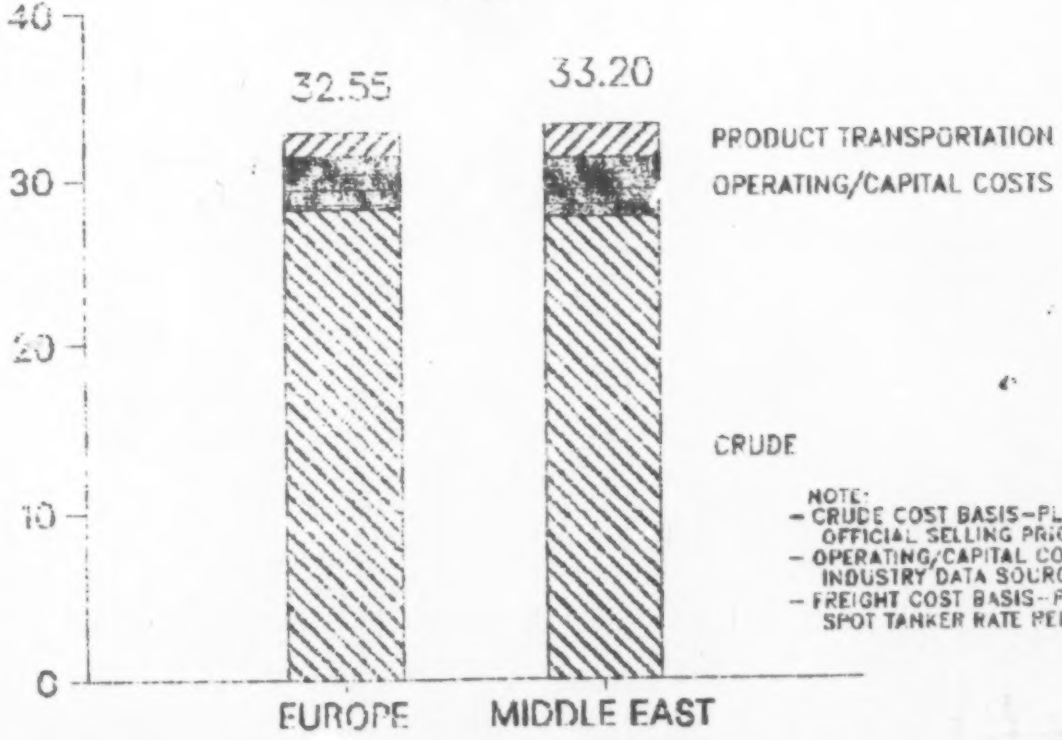
Profits for first quarter 1985 follow in million dollars with percent changes from year earlier. Oil volumes are in 1,000 b/d and gas in million cf/d.

	EXXON		*MOBIL		*CHEVRON		*TEXACO		ARCO		AMOCO	
Oil & Gas	1Q'85	% Chg	1Q'85	% Chg	1Q'85	% Chg	1Q'85	% Chg	1Q'85	% Chg	1Q'85	% Chg
Exploration & Production												
United States	568	+2.7	201	−2.9	270	+44.4	416	−10.7	330	+8.4	243	−15.5
Foreign	772	+8.8	331	+58.4	183	−6.5					188	−18.8
Refining & Marketing												
United States	13	−78.7	(11)	...	(25)	...	(27)	...	35	+10.7	2	−93.9
Foreign	16	−88.2	(3)	...	178	+151.6						
Transportation	(12)	...	...	...	...	...	(14)	...	92	−13.2		
Total Petroleum	1,356	−8.6	518	+2.8	528	+41.7	377	−10.2	458	−5.6	434	−23.5
Chemicals	80	−33.9	(7)	...	20	+186.7	(7)	...	15	−11.8	49	−16.9
Other	(113)	...	(191)	...	(172)	...	(50)	...	(120)	...	(10)	...
Total Profit	1,323	−10.2	320	−16.8	354	−8.3	320	−0.3	352	−10.0	473	−20.4
OPERATING STATISTICS**												
Crude Supply	2,095	−10.6	1,458	+8.3	1,502	+65.4	1,609	−7.0	723	−1.8	957	+1.9
Refinery Runs	3,082	−7.6	1,700	−0.4	2,091	+45.0	1,697	−5.9	744	+4.3	829	−6.7
Product Sales	4,245	−1.5	2,213	−6.1	2,553	+92.4	2,701	−0.7	922	+6.1	968	+4.9
Gas Sales	7,934	+7.7	4,842	−35.7	3,046	+100.0	3,592	+3.1	1,070	−3.5	3,301	−2.1
Profit per $ of Total Revenues	5.7¢	−3.1	2.1¢	−18.2	3.4¢	−48.2	2.7¢	−16.1	6.1¢	−0.6	8.0¢	−14.3
Petroleum Profits Per Gal. of Product Sales	$3.06	−3.0	$2.10	−2.3	$3.12	−4.8	$1.08	−0.0	$5.02	−12.1	$4.80	−23.4

*Profit comparisons with first quarter 1984 don't include Mobil's earnings of Superior prior to July 1, Chevron's share of Gulf prior to May 1, and Texaco's Getty prior to March 1, 1984.
** Includes transportation.

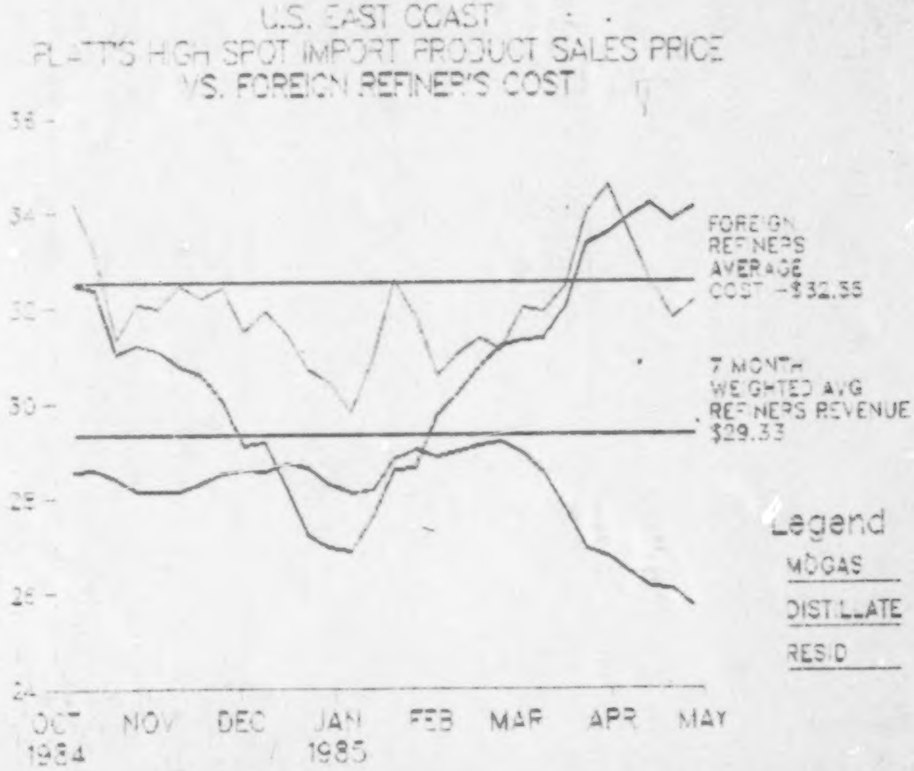
CHART 5

ESTIMATED
EXPORT REFINERY
PRODUCT SALES COST
$/BBL



NOTE:
- CRUDE COST BASIS—PLATT'S OFFICIAL SELLING PRICE POSTINGS
- OPERATING/CAPITAL COSTS BASIS—INDUSTRY DATA SOURCES
- FREIGHT COST BASIS—PLATT'S SPOT TANKER RATE REPORT

CHART 6.



SOURCE: Platt's/American Petroleum Institute

CHART 7

MAJOR EXPORT REFINERY PROJECTS

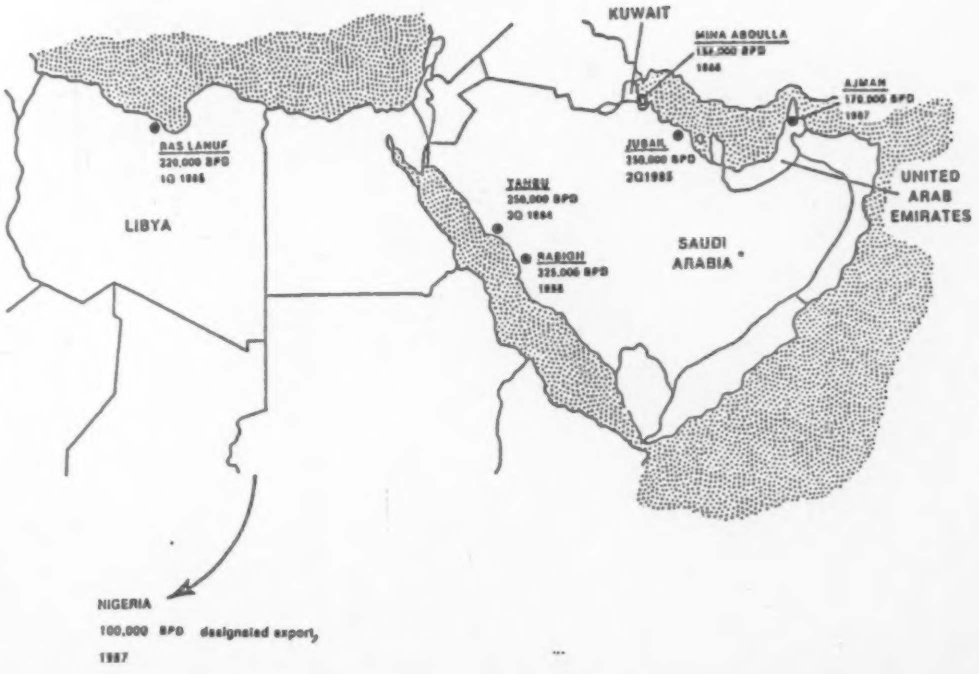


CHART 8

U.S. GASOLINE IMPORTS:
TOP FIVE SUPPLYING COUNTRIES

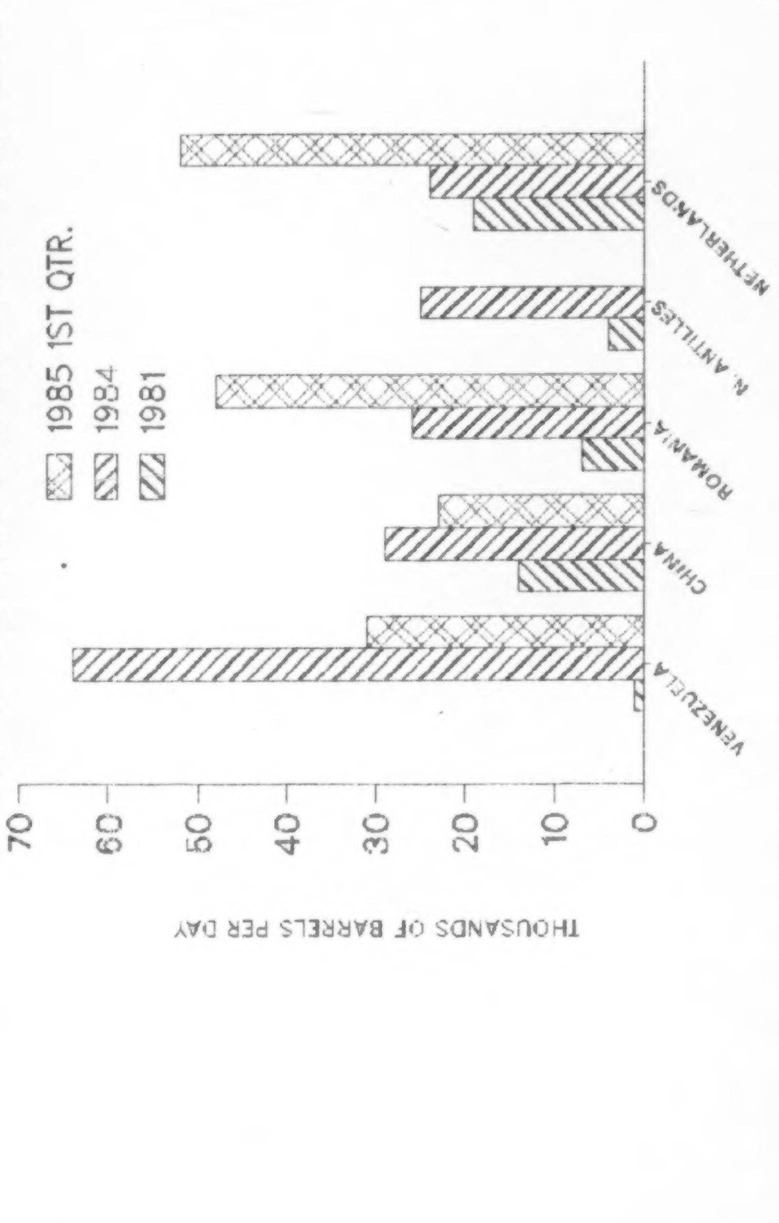


Chart 9

EXAMPLES OF TARIFF MISCLASSIFICATION OF PETROLEUM PRODUCTS

The U.S. Government should take steps to ensure a more uniform application of product import duties and close loopholes which presently allow certain petroleum products to enter at rates well below those which the Congress intended. These products include naphthas, motor fuel blending stocks and gasoline "spiked" with up to 40% ethanol.

Naphtha

There have been cases where high octane gasoline blending stocks, e.g., catalytic or reformed naphtha have been imported under the unfinished oils or naphtha categories and dutied at 0.25¢/gallon rather than at the gasoline tariff of 1.25¢/gallon. This loophole has enabled refiners and gasoline blenders to import catalytic naphtha at the lower rate, blend it directly into gasoline, and thereby gain a competitive advantage over domestic refiners and others who import blending stocks at the higher gasoline tariff.

Since the present tariff schedule does not include a separate listing for these motor fuel blending stocks, there has been considerable uncertainty as to the classification of blendstocks for tariff purposes, and the duty has varied at the different ports of entry. This has been further complicated by Treasury Decision 83-173, which adopted updated ASTM Specifications for motor fuel and resulted in naphthas with a combined octane rating below 85 for unleaded and below 87 for leaded no longer being defined as motor fuels. Thus some customs officials assessed cargos of these blendstocks at the motor fuel tariff (1.25¢/gallon) while others dutied them at the lower naphtha rate (.25¢/gallon) and still others at a higher ad valorem rate.

Gasoline Ethanol Blends

It is believed that ethanol may be entering the United States hidden in gasoline blends from Brazil as it has recently increased its gasoline exports to the United States. However, Brazil is a net crude importer, so it is effectively importing crude and exporting products. Considering the current refining economics, it is not apparent how this operation can be profitable. We believe these gasoline exports may contain 25-40% ethanol. Importers can evade the ethanol import tariff of 60¢/gallon plus 3% ad valorem by classifying the blend as naphtha or gasoline. When sold, the product can qualify for a gasohol excise tax waiver of 6¢/gal.

Chart 9

Unfinished Oils

Unfinished oils are partially refined petroleum products that do not meet merchantable product specifications and will not be directly blended into merchantable products. Furthermore, unfinished oils should require further major processing to convert them to merchantable products. Effectively, this definition encompasses all feedstocks such as: Ethylene plant feedstocks, reformer feedstocks, FCCU feedstock, topped crude, etc. These type products that require major processing in a U.S. refinery are charged the crude oil tariff.

Because of lack of definition in the TSUS, some importers have been importing finished gasoline blending stocks that do not meet ASTM gasoline specifications as unfinished oil and paying the lower $0.105/bbl crude tariff. We believe that all gasoline blending stocks that are merely blended directly to motor gasoline without further major processing should be imported under the higher $0.525/bbl finished product tariff.

PETROLEUM PRODUCT IMPORTS

SUGGESTED CRITERIA TO DETERMINE MINIMUM LEVEL OF DOMESTIC REFINING CAPACITY REQUIRED TO MEET U.S. ENERGY AND NATIONAL SECURITY NEEDS

Increasing levels of petroleum product imports, combined with the unprecedented amount of U.S. refining capacity closed since 1981, have raised the question as to what is the minimum level of domestic refining capacity required to meet U.S. energy and national security needs. No consensus exists at present as to what criteria should be applied in making this determination. The many complex cost/benefit considerations involved, combined with the balancing of potentially competing policy objectives, make this a matter which cannot be reduced to a simple formula. Set forth below is an analysis and discussion of a number of matters which would appear relevant in identifying the appropriate criteria to be utilized in making this difficult judgment.

DESIRED POLICY OBJECTIVES

A determination of the minimum required level of domestic refining capacity initially turns on U.S. policy objectives with respect to the percentage of normal domestic demand desired to be covered in the event of a supply disruption. The 1973-74 and 1979 cutoffs of petroleum imports to the U.S. resulted in economic and political shocks which, as a matter of policy, the country may desire to avoid or significantly minimize in the future. The strong conservation measures adopted since 1979, however, make the demand constraint opportunities available without injury to the economy much less than in prior periods. The creation of the SPR is a reflection of these policy considerations and the U.S. without question must maintain sufficient domestic refining capacity to utilize maximum SPR withdrawals.

In addition to covering adequately domestic demand, there remains the policy question of what refining capacity above the level to satisfy the approximately 16 MMBPD of civilian demand will be required to meet incremental military needs in time of emergency. Dr. Fred C. Ikle, Under Secretary of Defense for Policy, testified in Senate Committee hearings on June 21, 1985 that DOD's average daily consumption of approximately 500,000 BPD "could increase as much as three or four times during an emergency period." He explained that "During the early stages of an emergency requiring mobilization of military forces, our petroleum consumption would increase quickly." A major military mobilization could also increase normal civilian demand as factories operate on a round-the-clock basis to meet the military's needs.

A related policy consideration is the extent to which Europe's refined product requirements might have to be supplemented from U.S. sources in the event of military action in Europe. Approximately 50 percent of Europe's petroleum product imports come from Russia and Eastern bloc nations and, therefore, create a vulnerability to political or military considerations.

IMPACT OF IMPORTS ON REGIONAL MARKETS AND SPECIFIC PRODUCT REQUIREMENTS

Determination of a prudent level for product imports involves more than simply comparing total imports to total U.S. demand. Although gasoline imports and identified gasoline blending stocks currently represent 8 percent of total U.S. gasoline demand, they represent over 15 percent of East Coast (PAD I) demand. Such level of imports is more than enough to influence the price structure of the market and create a serious threat to the region in the event alternative supplies are not available in a period of disruption.

Similarly, it is important to recognize that the U.S. has adopted product quality and environmental specifications regarding lead levels, sulfur content, etc. which prevent refined products from being completely interchangeable. A cut-off of supplies from an export refinery making products satisfying U.S. quality specifications cannot be automatically replaced with supplies from another export refinery. This is another demonstration of the vulnerability arising from the shift by the U.S. to increasing volumes of light product imports.

An analysis comparing total product imports to total refining capacity can also be misleading by failing to recognize that the various refinery units do not all make the same slate of refined products. Some refineries produce mostly asphalt; others were designed to maximize middle distillate production and others gasoline. The relevant comparison in determining the adequacy of current refining capacity should be on a product-by-product basis in terms of the adequacy of existing capacity to cover current and projected demand.

DETERMINATION OF DOMESTIC REFINING CAPACITY ACTUALLY AVAILABLE

Various categories of refining capacity are reported from time to time. The most relevant is "operable" refining capacity which includes those units which are actively processing crude oil, together with idled refining capacity which can be operating within 90 days. The best estimate of current U.S. "operable" refining capacity is approximately 15 MMBPD. Included within this amount, however, is approximately 600,000 BPD which is currently idle and, with additional passage of time, may be beyond recommissioning. The requirement for regular testing and inspection results in an average utilization of 90 percent of "operable" capacity as the best which operationally can be achieved. Accordingly, U.S. refineries currently are capable of average daily runs of approximately 14 MMBPD as compared to average daily demand of almost 16 MMBPD.

Recent studies have indicated that as much as 1 MMBPD of existing "operable" refining capacity may be at risk during the next two to three years as a result of competition from product imports from the new OPEC export refineries. Therefore, a judgment must be made as to whether U.S. energy security and national security would be adequately protected if U.S. "operable" refining capacity were to drop to a level of 14.0 MMBPD with an average daily running capability of only 12.6 MMBPD. Stated another way, would it be prudent to rely on foreign product imports of as much as 3 MMBPD together with an additional 2-3 MMBPD of crude oil imports to cover normal civilian demand?

NATIONAL SECURITY CONSIDERATIONS

The acceptability of as much as 3 MMBPD of product imports would depend, inter alia, upon (1) the security of the geographic sources of such supplies; (2) the different product composition of such imports and the capability for substitution of such products with other domestic energy supplies; (3) the nature of the ownership (private firm or government) of the export refineries upon which the U.S. has placed its product supply dependence; and (4) the likely capability of the product importer (traders, marketers and blenders vs. refiners) to arrange for an alternative supply source in the event of an international disruption. These matters are discussed more fully below:

1. Long-Haul Vs. Short-Haul Sources Of Supply

An increasing percentage of petroleum product imports come from long-haul sources as compared to the traditional Caribbean short-haul sources of the 1970's. Fifty percent (50%) of the gasoline and the identified gasoline blending stocks imported in 1984 came from Brazil, China, Romania, the UAE and Western Europe. The additional imports forecast over the next two years from OPEC export refineries will significantly increase the United States' dependence on long-haul sources. These supplies will be much more vulnerable to military and possible terrorist disruption than the short-haul product imports on which the U.S. relied in the 1970's. Time/distance considerations could also be significant during a period of international supply disruption. Shipping time from the Carribbean is a few days compared to 45 days from the Persian Gulf.

2. Ability To Substitute Other Domestic Energy Sources For Product Imports During Periods Of Disruption

In 1972, the U.S. imported 1,742,000 BPD of residual fuel oil representing 69 percent of total product imports. This amount had declined to 674,000 BPD in 1984 and represented only 34 percent of total product imports. Residual fuel oil, principally consumed by electric utilities and large industrial users, can be substituted readily with coal or natural gas in the event of curtailment. In contrast, today's product imports are predominantly the lighter transportation fuels which are not capable of subsitution by other domestic energy sources. A supply disruption in light product imports would have a much greater impact on economic and national security considerations than was the case with residual fuel oil in the 1970's.

3. Refinery Ownership By Private Firms Vs. Foreign Governments

In 1975 only 4 percent of U.S. light product imports were supplied by government-owned refineries. By 1984 the amount had risen to 36 percent. Forecast deliveries from new export refineries into the U.S. over the next two or three years could increase dependence on foreign government-owned export refineries to as much as 70 percent. Governments have a much broader agenda than private commercial firms in establishing price levels and exercising available leverage during a period of tight supplies. Foreign governments can also be expected to weigh political considerations with respect to supplying products to U.S. military forces in the event of any East-West confrontation. During the 1973-74 Arab embargo, offshore refineries supplying U.S. military forces were primarily owned by U.S. companies. This is becoming increasingly less the case.

4. The Changing Character of Entities Importing Products Into The U.S.

In 1978 the major international oil companies imported 25 percent of the total light products and unfinished oils imported into the U.S. Domestic refiners and traders, marketers and blenders imported 60 percent and 15 percent of these products respectively. In 1984, the major international oil companies imported only 8 percent of the total of these products brought into the U.S. and the domestic refiners' share had dropped to a level of 41 percent. Traders, marketers and blenders imported 490,000 BPD of total light products and unfinished oils into the U.S. in 1984 representing 51 percent of total light product imports. Whether this newly dominant type of importer will have the capability of arranging for alternative sources of supply in the event of an international disruption remains undemonstrated.

ADDITIONAL FACTORS TO BE USED IN DETERMINING MINIMUM DOMESTIC REFINING CAPACITY

1. Ability To Refine Secure Sources of Crude

A formula based on the amount of current U.S. crude oil production (9 MMBPD) plus maximum SPR drawdown capability (3-3.5 MMBPD) to determine a minimum U.S. refinery capacity is much too simplistic. Such a formula would provide a supply of only 12.5 MMBPD of refined products which, combined with approximately 1.5 MMBPD of domestic natural gas liquids, would leave a supply shortfall of 1.5-2.0 MMBPD from normal civilian demand. It is highly unlikely that an international supply disruption would result in a curtailment of all crude oil imports, but the above formula would provide no increment of domestic refining capacity to process such crude imports as may be available from the Western Hemisphere and other sources. To the extent national policy dictates that some percentage of incremental military mobilization demand be covered by domestic refining capacity, the above formula, unless appropriately adjusted, would further understate U.S. minimum refining requirements.

2. "Cushion" Capacity As A Margin For Error

Once refineries have been permanently closed, the costs of maintenance and rehabilitation make it extremely difficult to ever resume operations. Accordingly, consideration should be given as to whether some small increment of capacity should be retained for policy planning purposes as a "cushion" in the event of forecast error. The complexities involved in making accurate petroleum supply/demand forecasts combined with the poor track record of prior estimates suggest it may be prudent to err on the conservative side in determining a minimum capacity level. Moreover, the upward pressure on price resulting from a precisely balanced supply/demand relationship may make the existence of such a "cushion" a benefit from a consumer standpoint. Seasonal swings in demand combined with unanticipated operating upsets, requiring unscheduled downtimes, also point to the desirability of maintaining a small increment of "cushion" capacity.

SUMMARY

The above discussion identifies a number of relevant factors to be considered in reaching a judgment on the minimum level of U.S. refining capacity to meet energy requirements and national security needs. In the final analysis, an informed judgment must be made, taking all of the above factors into consideration with appropriate weighting. No single formula would seem to be a sufficiently reliable indicator.

U.S. light product imports will be reaching levels within the next two years which are comparable to the levels reached during the periods in the 1970's when supply disruptions occurred.

The critical factors, as noted above, are the changing mix of product imports to the lighter transportation fuels combined with the shift to long-haul sources operated by foreign governments. These relationships create a much greater vulnerability from product import dependence than was the case in the 1970's.

Also significant is that further declines in domestic refining capacity will result not from normal competitive market forces but to a greater extent from raw materials and other subsidies provided by foreign governments to their export refineries as found in the recent study by the International Trade Commission. As domestic refining capacity continues to rapidly trend downward toward minimum levels, some government action at an early date is clearly indicated to prevent such unfair competition. This would help ensure that the U.S. does not unknowingly drift below minimum prudent levels and additionaly provide greater flexibility in the policy options available to protect vital energy and national security interests.

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